KC HARVEY

August 31, 2010

Ms. Kathy Brown
Wyoming Department of Environmental Quality
510 Meadowview Drive
Lander, WY 82520

Re: REMEDIAL ALTERNATIVES EVALUATION - TRIBAL PAVILLION 14-11

Dear Ms. Brown:

EnCana Oil & Gas USA Inc. (EnCana) has prepared this REMEDIAL ALTERNATIVES EVALUATION REPORT for the Tribal Pavillion (TP) 14-11 Voluntary Remediation Program (VRP) location. This report is divided into five generalized categories for each location including:

- Project Background
- Targeted Soil Remediation Activity
- Groundwater Contaminant Distribution and Characterization
- Groundwater Remedial Action Alternatives
- Recommended Remedy

Please contact Mike Larson at (406) 585-7402 (ext. 14) with any questions or comments.

Sincerely,

Michael Larson
Principal Scientist
KC Harvey Environmental, LLC.

Cc: A. Taylor, EnCana
D. Stewart, EnCana
K. Derr, EnCana

KC Harvey Environmental, LLC
376 Gallatin Park Drive
Bozeman, Montana 59715

T 406-585-7402
F 406-585-7428
www.kcharvey.com

TABLE OF CONTENTS

EXECUTIVE SUMMARY

In 2006, EnCana voluntarily initiated site assessment work for the TP 14-11 natural gas well location where the historic use of unlined pits was identified. The facility was officially placed under the Wyoming Department of Environmental Quality (DEQ) Voluntary Remediation Program (VRP) following review of the first round of groundwater monitoring results in October, 2006. The site is currently owned by Mr. and Mrs. [redacted] (west ½) and Mr. [redacted] (east ½) while EnCana operates the natural gas well location.

Site assessment activities have included the installation and semi-annual monitoring of eight monitoring wells (MW-1 through MW-8) and installation of 31 Geoprobe borings from which soil total hydrocarbon concentrations were measured. These activities, along with review of a historic aerial photograph, indicated that hydrocarbon liquids had leaked from containment pits located west of the separators. Constituents of concern (COCs) being evaluated include diesel and gasoline range organics (DROs and GROs), benzene, toluene, ethylbenzene and xylenes (BTEX compounds).

A targeted soil remediation source removal involved excavation of approximately 940 cubic yards of hydrocarbon impacted soil from the area exhibiting the most elevated hydrocarbon concentrations during assessment activities. The excavation occurred in three separate areas surrounding monitoring well MW-3. Soil confirmation samples collected from the excavation walls and floor provided data to assess the success of hydrocarbon removal. A portion of impacted soil was not removed due to severe slumping of the pit walls which threatened worker safety and the integrity of the monitoring well.

Groundwater monitoring data show that a hydrocarbon plume persists down gradient (southeast) of the excavated area. There is also evidence that residual hydrocarbons at the groundwater surface are seasonally re-mobilized and measured in samples collected from MW-3, -6, and -7. No deleterious impacts have been measured at sentinel well MW-8 and no human receptors have been identified down gradient of the known source area. One occupied residence is located approximately 0.1 of a mile west of the location; however, the groundwater flow direction is to the southeast, which minimizes or eliminates the potential risk for this residence as a receptor.

EnCana proposes Monitored Natural Attenuation as the recommended groundwater remediation alternative to implement at TP 14-11 with Enhanced Monitored Natural Attenuation as a contingency alternative.

Based on the Wyoming DEQ's acceptance of this preferred remedy, EnCana will initiate specific tasks to collect data to be used to determine the status of microbial degradation of hydrocarbons. In addition, geochemical data will allow an evaluation of patterns of contaminant concentrations and natural attenuation indicator parameters. Following compilation and evaluation of the data, assessment findings will be reported at least semiannually to support the selection of this alternative. These data will also provide evidence for the primary mechanism for reducing contaminant concentrations and include an estimated timeframe for achieving the potential remediation objective. Further development of the TP 14-11 site conceptual model to support the MNA groundwater remediation alternative's effectiveness will also be a focus. A remedial action plan will be developed.

1.0 INTRODUCTION

This report describes the remedial alternatives evaluation for the Tribal Pavillion (TP) 14-11 location (Figure 1). The report presents summary information of all soil and groundwater data collected to date and provides relevant information for determining the best suited groundwater treatment option. In addition, the report contains a subsection describing groundwater sampling and analysis planned for future monitoring events at the site.

2.0 TP 14-11 BACKGROUND

In 2006, EnCana voluntarily initiated site assessment work for the TP 14-11 facility location along with approximately thirty other Pavillion-area natural gas well locations where the historic use of unlined pits was identified. Hydrocarbon groundwater impacts were detected and attributed to a release that likely occurred over several years beginning in the 1960s when the natural gas well was drilled. The pathway for hydrocarbon migration to groundwater likely consisted of an open pit subsurface release and subsequent vertically downward migration. In addition, site soils in the vicinity of the historic pit may have also been impacted with hydrocarbons during reclamation and regrading operations.

Based on the nature and extent of soil and groundwater petroleum hydrocarbons observed, the TP 14-11 facility was officially placed under the Wyoming Department of Environmental Quality (DEQ) Voluntary Remediation Program (VRP) following review of the first round of groundwater monitoring results. The data indicated that a groundwater volatile organic compound (VOC) plume was present on site.

In addition, site assessment activities have included the installation of eight monitoring wells (MW-1 through MW-8) to monitor and characterize groundwater (Figure 2). The main focus of the soil and groundwater data collection program was to determine the nature and extent of hydrocarbons.

2.1 Legal Description and Ownership

The TP 14-11 surface location (SW 1/4 of SW ¼ of Section 11, Township 3N, Range 2E) is currently owned by Mr. and Mrs. (b)(6) privacy [Landowner name] (west ½) and Mr. (b)(6) privacy [Landowner name] (east ½) while EnCana operates the natural gas well location (Figure 1). Figure 2 illustrates a plan view of the TP 14-11 facility including natural gas well-related equipment, the targeted soil excavation area delineation, monitoring well locations, groundwater elevations, and the estimated groundwater flow direction.

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376 Gallatin Park Drive
Bozeman, MT 59715
406.585.7402
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0 400 800 Feet

Background: 2009 NAIP Aerial Photography

EnCana Oil & Gas USA, Inc.

Pavillion VRP
Figure 1: General Site Location
TP 14X-11

Date: August 16, 2010 | Version: 2010-1

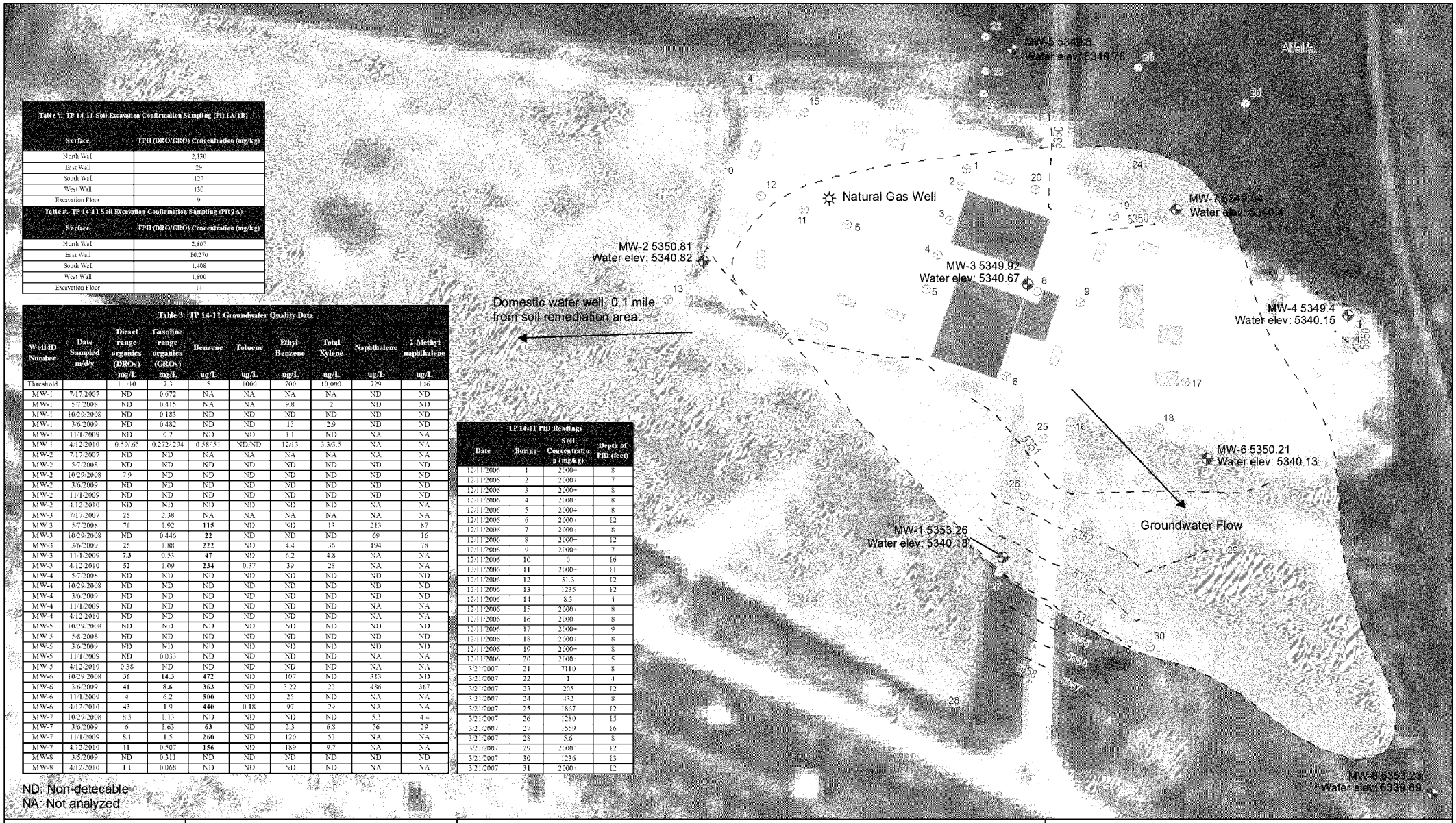

Table #. TP 14-11 Soil Excavation Confirmation Sampling (Pit 1A/1B)

Surface	TPH (DRO/GRO) Concentration (mg/kg)
North Wall	2,130
East Wall	29
South Wall	127
West Wall	130
Excavation Floor	9

Table #. TP 14-11 Soil Excavation Confirmation Sampling (Pit 2A)

Surface	TPH (DRO/GRO) Concentration (mg/kg)
North Wall	2,807
East Wall	10,270
South Wall	1,408
West Wall	1,800
Excavation Floor	11

Table 3. TP 14-11 Groundwater Quality Data

Well ID Number	Date Sampled m/d/y	Diesel range organics (DROs) mg/L	Gasoline range organics (GROs) mg/L	Benzene ug/L	Toluene ug/L	Ethyl-Benzene ug/L	Total Xylene ug/L	Naphthalene ug/L	2-Methyl naphthalene ug/L
Threshold		1.1-10	7.3	5	1000	700	10,000	729	146
MW-1	7/17/2007	ND	0.672	NA	NA	NA	NA	ND	ND
MW-1	5/7/2008	ND	0.415	NA	NA	9.8	2	ND	ND
MW-1	10/29/2008	ND	0.183	ND	ND	ND	ND	ND	ND
MW-1	3/6/2009	ND	0.482	ND	ND	15	2.9	ND	ND
MW-1	11/1/2009	ND	0.2	ND	ND	1.1	ND	NA	NA
MW-1	4/12/2010	0.59/.65	0.272/.294	0.58/.51	ND/ND	12/13	3.3/3.5	NA	NA
MW-2	7/17/2007	ND	ND	NA	NA	NA	NA	NA	NA
MW-2	5/7/2008	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	10/29/2008	7.9	ND	ND	ND	ND	ND	ND	ND
MW-2	3/6/2009	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	11/1/2009	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	4/12/2010	ND	ND	ND	ND	ND	ND	NA	NA
MW-3	7/17/2007	**25**	2.38	NA	NA	NA	NA	NA	NA
MW-3	5/7/2008	**70**	1.92	**115**	ND	ND	13	213	87
MW-3	10/29/2008	ND	0.446	**22**	ND	ND	ND	69	16
MW-3	3/6/2009	**25**	1.88	**222**	ND	4.4	36	194	78
MW-3	11/1/2009	**7.3**	0.53	**47**	ND	6.2	4.8	NA	NA
MW-3	4/12/2010	**52**	1.09	**234**	0.37	39	28	NA	NA
MW-4	5/7/2008	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	10/29/2008	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	3/6/2009	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	11/1/2009	ND	ND	ND	ND	ND	ND	NA	NA
MW-4	4/12/2010	ND	ND	ND	ND	ND	ND	NA	NA
MW-5	10/29/2008	ND	ND	ND	ND	ND	ND	ND	ND
MW-5	5/8/2008	ND	ND	ND	ND	ND	ND	ND	ND
MW-5	3/6/2009	ND	ND	ND	ND	ND	ND	ND	ND
MW-5	11/1/2009	ND	0.033	ND	ND	ND	ND	NA	NA
MW-5	4/12/2010	0.38	ND	ND	ND	ND	ND	NA	NA
MW-6	10/29/2008	**36**	**14.3**	**472**	ND	107	ND	313	ND
MW-6	3/6/2009	**41**	**8.6**	**363**	ND	3.22	22	486	**367**
MW-6	11/1/2009	**4**	6.2	**500**	ND	25	ND	NA	NA
MW-6	4/12/2010	**43**	1.9	**440**	0.18	97	29	NA	NA
MW-7	10/29/2008	8.3	1.13	ND	ND	ND	ND	5.3	4.4
MW-7	3/6/2009	6	1.63	**63**	ND	2.3	6.8	56	29
MW-7	11/1/2009	**8.1**	1.5	**260**	ND	120	53	NA	NA
MW-7	4/12/2010	**11**	0.507	**156**	ND	189	9.7	NA	NA
MW-8	3/5/2009	ND	0.311	ND	ND	ND	ND	ND	ND
MW-8	4/12/2010	1.1	0.068	ND	ND	ND	ND	NA	NA

ND: Non-detectable
NA: Not analyzed

TP 14-11 PID Readings

Date	Boring	Soil Concentration (mg/kg)	Depth of PID (feet)
12/11/2006	1	2000+	8
12/11/2006	2	2000+	7
12/11/2006	3	2000+	8
12/11/2006	4	2000+	8
12/11/2006	5	2000+	8
12/11/2006	6	2000+	12
12/11/2006	7	2000+	8
12/11/2006	8	2000+	12
12/11/2006	9	2000+	7
12/11/2006	10	0	16
12/11/2006	11	2000+	11
12/11/2006	12	513	12
12/11/2006	13	1235	12
12/11/2006	14	8.3	4
12/11/2006	15	2000+	8
12/11/2006	16	2000+	8
12/11/2006	17	2000+	9
12/11/2006	18	2000+	8
12/11/2006	19	2000+	8
12/11/2006	20	2000+	5
3/21/2007	21	7110	8
3/21/2007	22	1	4
3/21/2007	23	205	12
3/21/2007	24	432	8
3/21/2007	25	1867	12
3/21/2007	26	1280	15
3/21/2007	27	1559	16
3/21/2007	28	5.6	8
3/21/2007	29	2000+	12
3/21/2007	30	1236	13
3/21/2007	31	2000+	12

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Bozeman, MT 59715
406-585-7402
www.kcharvey.com

0 25 50 100 Feet

Monitoring Wells
Boring
Gas Well
Topographic Contour
Separator
Test Trench
Soil Remediation Area
Estimated Benzene Groundwater Plume

Labeled values shown in feet

Background: 2009 NAIP Aerial Photography

EnCana Oil & Gas USA, Inc.

Pavillion VRP
Figure 2: Soil and Groundwater Assessment Locations
14X-11

Date: August 18, 2010

Version: 2010-3

2.2 Constituents of Concern

The primary source material contributing to soil and groundwater contamination at this site is unlined pit storage of hydrocarbon liquids that likely consisted of a combination of drilling and separation fluids, produced water, and condensate. As expected, soil assessment and remediation activities revealed residual hydrocarbon source material in the subsurface in the vicinity of the pit location where hydrocarbon liquids storage took place west of the current separator location.

The constituents of concern (COCs) being evaluated therefore include diesel and gasoline range organics (DROs and GROs), benzene, toluene, ethylbenzene and xylenes (BTEX compounds). BTEX compounds are detectable in the GRO range and are biodegradable under both aerobic and anaerobic conditions. DROs are also biodegradable under both aerobic and anaerobic conditions. Both DROs and GROs continue to be assessed for regulatory compliance purposes.

2.3 Soil Characterization

Soil profiles were described at 31 locations during the 2006 and 2007 Geoprobe borehole installation at TP-14-11. Two additional profiles were described during the 2009 installation of two monitoring wells (MW-6 and MW-7) (Figure 2). Soils were described to the full depth of the borings which ranged from 7 to 16 feet in depth. The water table was intercepted in all borings and varied in depth from 7 to 10 feet below ground surfacen (bgs). In general, surface soil is characterized as a sandy loam grading to loamy sand below a depth of about five feet (Inberg Miller Engineers). Soil structure is generally subangular blocky in the upper horizons to a depths of about 1.5 to 4 feet with massive structure below. No coarse fragments were observed throughout the profile in any boring. Besides increased moisture content, soils below the water table did not appear to differ from those above.

The upper depth increments where hydrocarbons were first encountered across the location varied between about 4 to 8 feet. The deepest extent of observed hydrocarbons was about 16 feet. Table 1 presents photoionization detector (PID) readings for Geoprobe borings installed in 2006 and 2007.

Table 1. TP 14-11 PID Total Petroleum Hydrocarbon Readings

Date	Boring	Soil Concentration (mg/kg)	Depth of PID (feet)	Date	Boring	Soil Concentration (mg/kg)	Depth of PID (feet)
12/11/2006	1	2000+	8	12/11/2006	17	2000+	9
12/11/2006	2	2000+	7	12/11/2006	18	2000+	8
12/11/2006	3	2000+	8	12/11/2006	19	2000+	8
12/11/2006	4	2000+	8	12/11/2006	20	2000+	5
12/11/2006	5	2000+	8	3/21/2007	21	7110	8
12/11/2006	6	2000+	12	3/21/2007	22	1	4
12/11/2006	7	2000+	8	3/21/2007	23	205	12
12/11/2006	8	2000+	12	3/21/2007	24	432	8
12/11/2006	9	2000+	7	3/21/2007	25	1867	12
12/11/2006	10	0	16	3/21/2007	26	1280	15
12/11/2006	11	2000+	11	3/21/2007	27	1559	16
12/11/2006	12	31.3	12	3/21/2007	28	5.6	8
12/11/2006	13	1235	12	3/21/2007	29	2000+	12
12/11/2006	14	8.3	4	3/21/2007	30	1236	13
12/11/2006	15	2000+	8	3/21/2007	31	2000+	12
12/11/2006	16	2000+	8				

2.4 Soil Remediation Effort

Soil beneath the historic pits was identified as the main source of hydrocarbon contamination in groundwater based on elevated hydrocarbon readings during the geoprobe and trenching assessment, and previous groundwater monitoring results for monitoring well MW-3. This observation triggered a targeted remediation activity to remove the contaminated soil guided by the 2006 and 2007 Geoprobe data and an aerial image of the TP 14-11 location.

Approximately 940 cubic yards of hydrocarbon contaminated soil was excavated and removed from the TP-14-11 location in 2008 (Figure 2). Excavation took place in three separate excavations (i.e. Pits 1A, 1B, and 2A) in an effort to maximize contaminated soil removal while avoiding underground natural gas flow lines and utilities.

2.5 Nature and Distribution of Hydrocarbon Impact in Soil

Once the excavation removed the impacted soil, confirmation composite soil sampling was performed on each wall and the floor of the excavation "footprint" to confirm representative concentrations of total petroleum hydrocarbons diesel range organics (DROs) and gasoline range organics (GROs). Each composite sample consisted of 5-8 subsamples representing each of the five surface areas. The samples were compared to soil cleanup level goals of <1,000 mg/kg in accordance with the Wyoming Oil and Gas Conservation Commission (WYOGCC) risk-based pit closure guidance. At Pits 1A/1B, DRO/GRO concentrations were well below the soil cleanup level goal except for the North Wall sample (2,130 mg/kg). At Pit 2A, all sampled surfaces except for the pit floor exceeded the cleanup level goal. Some hydrocarbon impacted soil was not accessible due to site conditions. Therefore, portions of the pits remained unexcavated due to geotechnical instability which caused dangerous, frequent, and unpredictable sloughing of the pit walls. This sloughing posed a danger to worker safety and threatened to compromise the integrity of monitoring well MW-3 as well as underground utilities including a natural gas pipeline. Excavations must comply with Occupational Safety and

Administration (OSHA) standards. A summary of the targeted excavation composite soil sampling results is provided in Table 2.

Table 2. TP 14-11 Soil Excavation Confirmation Sampling

Surface	TPH (DRO/GRO) Concentration (mg/kg)
Pit 1A/1B	
North Wall	2,130
East Wall	29
South Wall	127
West Wall	130
Excavation Floor	9
Pit 2A	
North Wall	2,807
East Wall	10,270
South Wall	1,408
West Wall	1,800
Excavation Floor	14

2.6 Monitoring Well Network

The current well network at the site consists of eight wells including MW-1 through MW-8 as shown in Figure 2. This network of monitoring wells, installed in three separate time intervals, allowed definition and tracking of potential migration of the hydrocarbon groundwater plume at TP-14-11. Monitoring wells MW-1 through MW-5 were installed in 2007 within and near the suspected perimeter of hydrocarbon impacts. Review of the initial water quality data for MW-1, -2, -4, and -5 indicated that these wells were located beyond the perimeter of the groundwater hydrocarbon plume prompting the installation of wells MW-6 and -7 to better define the plume in 2008. Well MW-8 was installed as a down gradient sentinel well in 2009 to provide data to evaluate whether the plume remains within the confines of the well pad location and immediately surrounding area.

2.7 Monitoring Well Sampling

Monitoring wells were sampled upon completion and then twice per year; in the spring time, typically between March and May, and a fall sampling event in October. Groundwater samples collected from the TP-14-11 monitoring wells are analyzed for DRO, GRO, BTEX, naphthalene, and 2-methylnaphthalene. Monitoring has been performed six times for monitoring wells MW-1 through MW -5, four times for MW-6, and -7, four times for MW-6 and -7, and twice for MW-8.

2.8 Hydrogeology

Drill logs from the project site indicate that the sandy loam surface soil is underlain by a 10 to 20 ft thick layer of alluvial/sandstone sedimentary bedrock. This is consistent with general aquifer descriptions provided for the Tribal Pavilion area by USGS (2005) that report shallow local aquifers consisting of alluvial, colluvial, terrace, pediment, landslide, glacial, and travertine deposits. These aquifers are generally less than 50 feet thick but can be as thick as 200 feet. Water yields from these aquifers range from 2 to 60 gpm and with total dissolved solids concentrations that range from 109 to 4,630 mg/L.

Local aquifers are underlain by the Tertiary Wind River Formation. In places, local aquifers are separated from the Wind River Formation by leaky confining layers of the Wiggins, Tepee Trail, and Aycross formations.

2.8.1 Groundwater Flow Direction

Groundwater elevations measured during monitoring events have shown groundwater moves in a predominantly southeast direction.

2.8.2 Groundwater Velocity

The horizontal hydraulic conductivity (Kr) of an aquifer can be estimated based on data collected during slug tests of a monitoring well. During a slug test, water is rapidly added to or removed from a monitoring well and the subsequent change in water level is monitored regularly during the time it takes for the water level to re-equilibrate to a static level. Curves of the water level/head change over time, along with parameters describing the well (i.e. radius, screened length, etc), and the saturated thickness of the aquifer are then used in calculations to arrive at an estimate of Kr (aka groundwater velocity).

Slug testing of monitoring well MW-2 at TP-14-11 was conducted in November 2009 (Trihydro 2009). Raw data from the slug test were input into the aquifer test software Aqtesolv to calculate Kr using the KGS (Butler 1998) method. The calculated value for Kr was 0.08 ft/day. This value is within the range for both unconsolidated silt (0.00028 and 5.6 ft/day) and fine sand (0.056 and 56 ft/day) reported by Domenico and Schwartz (1990), which correlates to site conditions.

2.9 Groundwater Hydrocarbon Concentrations

Laboratory data from the most recent sampling event in April 2010 is presented in Attachment 1. Summary statistics have been calculated for MW-1, MW-3, MW-6, and MW-7; the four monitoring wells where COCs are routinely detected (Table 3). COCs have not been detected at monitoring well MW-4, and only one low-level DRO or GRO detection has occurred at MW-1 and MW-5, respectively. Monitoring well MW-8 has been sampled twice since installation and had a DRO concentration equal to the threshold value 1.1 mg/L in spring 2010 while all other hydrocarbon concentrations were well below threshold and/or detection limit values.

Maximum concentrations of petroleum hydrocarbons vary depending on the specific well and parameter. For instance, maximum benzene concentrations are typically measured in samples from MW-6; however, DRO concentrations at MW-6 are considerably lower than those measured at MW-3.

Benzene concentrations at MW-6 have remained above the threshold concentration, fluctuating between 363 and 500 ug/L since 2008. At MW-3, benzene concentrations display considerable seasonality with lower concentrations (22 to 47 ug/L) in the fall or winter months and greater concentrations (115 to 234 ug/L) in the spring. Benzene concentrations appear to be increasing at MW-3 when the data are evaluated on a season-specific basis. Benzene concentrations at MW-7 show similar trends compared to MW-3 (i.e. elevated concentrations in the fall and increasing concentrations within each season). At MW-1 and MW-8, benzene concentrations are below detection limits.

Benzene concentrations measured at MW-2 and MW-7 increased for a varying amount of time following excavation activities. The mechanism for an increase in petroleum hydrocarbon concentrations following targeted source removal has not been identified.

Table 3. TP 14-11 Groundwater Quality Data Summary

		Date Sampled m/d/y	DRO [1]	GRO [2]	Benzene	Toluene	Ethyl-Benzene	Total Xylene	Naph-thalene	2-Methyl-naphthalene
			mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L
MW-1		Threshold 3	1.1/10	7.3	5	1000	700	10,000	729	146
	Data	7/17/2007	0	0.7	NA	NA	NA	NA	0	0
		5/7/2008	0	0.4	NA	NA	9.8	2	0	0
		10/29/2008	0	0.2	0	0	0	0	0	0
		3/6/2009	0	0.5	0	0	15	2.9	0	0
		11/1/2009	0	0.2	0	0	1.1	0	NA	NA
		4/12/2010	0.6	0.3	0.5	0.0	12.5	3.4	NA	NA
	Summary Statistics	Minimum	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
		Maximum	0.6	0.7	0.5	0.0	15.0	3.4	0.0	0.0
		Mean	0.1	0.4	0.1	0.0	7.7	1.7	0.0	0.0
		Mean (Fall)	0.0	0.2	0.0	0.0	0.6	0.0	0.0	0.0
		Mean (Spring)	0.2	0.5	0.3	0.0	12.4	2.8	0.0	0.0
MW-3		Threshold	1.1/10	7.3	5	1000	700	10,000	729	146
	Data	7/17/2007	**25**	2.4	NA	NA	NA	NA	NA	NA
		5/7/2008	**70**	1.9	**115**	0	0	13	213	87
		10/29/08 [4]	0	0.4	**22**	0	0	0	69	16
		3/6/2009	**25**	1.9	**222**	0	4.4	36	194	78
		11/1/2009	**7.3**	0.5	**47**	0	6.2	4.8	NA	NA
		4/12/2010	**52**	1.1	**234**	0.4	39	28	NA	NA
	Summary Statistics	Minimum	0.0	0.4	22.0	0.0	0.0	0.0	69.0	16.0
		Maximum	70.0	2.4	234.0	0.4	39.0	36.0	213.0	87.0
		Mean	29.9	1.4	128.0	0.1	9.9	16.4	158.7	60.3
		Mean (Fall)	3.7	0.5	34.5	0.0	3.1	2.4	69.0	16.0
		Mean (Spring)	43.0	1.8	190.3	0.1	14.5	257	203.5	82.5
MW-6		Threshold [3]	1.1/10	7.3	5	1000	700	10,000	729	146
	Data	10/29/2008	**36**	**14.3**	**472**	0	107	0	313	0
		3/6/2009	**41**	**8.6**	**363**	0	3.22	22	486	**367**
		11/1/2009	**4**	6.2	**500**	0	25	0	NA	NA
		4/12/2010	**43**	1.9	**440**	0.18	97	29	NA	NA
	Summary Statistics	Minimum	4.0	1.9	363.0	0.0	3.2	0.0	313.0	0.0
		Maximum	43.0	14.3	500.0	0.2	107.0	29.0	486.0	367.0
		Mean	31.0	7.8	443.8	0.0	58.1	12.8	399.5	183.5
		Mean (Fall)	20.0	10.3	486.0	0.0	66.0	0.0	313.0	0.0
		Mean (Spring)	42.0	5.3	401.5	0.1	50.1	255	486.0	367.0

[1] D.R.O. = Diesel Range Organics
[2] G.R.O. = Gasoline Range Organics
[3] Threshold for DROs assumed to be 1.1 mg/L
Averages of natural and duplicate sample data used in calculations when available.
Non-detect values reported as zeros and calculated as such in summary statistics.

Table 3 (continued). TP 14-11 Groundwater Quality Data Summary

		Date Sampled m/d/y	DRO [1]	GRO [2]	Benzene	Toluene	Ethyl-Benzene	Total Xylene	Naph-thalene	2-Methyl-naphthalene
			mg/L	mg/L	ug/L	ug/L	ug/L	ug/L	mg/L	mg/L
MW-7	Data	Threshold	1.1/10	7.3	5	1000	700	10,000	729	146
		10/29/2008	**8.3**	1.13	0	0	0	0	5.3	4.4
		3/6/2009	**6**	1.6	**63**	0	2.3	6.8	56	29
		11/1/2009	**8.1**	1.5	**260**	0	120	53	NA	NA
		4/12/2010	**11**	0.5	**156**	0	189	9.7	NA	NA
	Summary Statistics	Minimum	6.0	0.5	0.0	0.0	0.0	0.0	5.3	4.4
		Maximum	11.0	1.6	260.0	0.0	189.0	53.0	56.0	29.0
		Mean	8.4	1.2	119.8	0.0	77.8	17.4	30.7	16.7
		Mean (Fall)	8.2	1.3	130.0	0.0	60.0	26.5	5.3	4.4
		Mean (Spring)	8.5	1.1	109.5	0.0	95.7	8.3	56.0	29.0

[1] D.R.O. = Diesel Range Organics
[2] G.R.O. = Gasoline Range Organics
[3] Threshold for DROs assumed to be 1.1 mg/L
Averages of natural and duplicate sample data used in calculations when available.
Non-detect values reported as zeros and calculated as such in summary statistics.

2.10 Groundwater Characterization

Based on the groundwater plume map, the width of the hydrocarbon groundwater impacts where groundwater hydrocarbon concentrations exceed regulatory thresholds is estimated to be approximately 450 ft long by 200 ft wide (Figure 2). The contour illustrates that the groundwater hydrocarbon plume extends southeast (down gradient) from the primary source area by about 300 ft although as the dissolved hydrocarbons move farther southeast from the source area, levels have decreased due to dispersion and dilution over time.

The unlined storage pit would have allowed hydrocarbon liquids to flow primarily vertically under the influence of gravity, through the sandy loam textured soils, although to a lesser extent, capillary forces would have resulted in some lateral spreading. The dissolved-, vapor-, and adsorbed-phase soil hydrocarbon concentrations within and surrounding the soil source area have likely decreased over the years due to biodegradation processes.

Groundwater occurs between about 11 ft to 15 ft bgs. With regard to groundwater, if sufficient volumes of hydrocarbon liquids released to the subsurface reached the shallow water table, a capillary fringe saturated with hydrocarbon product could form. Seasonal water table fluctuations, especially in this area where annual irrigation practices were historically practiced adjacent to the site, can cause the hydrocarbon product to create a smear zone. immediately above and below the fluctuating water table mainly within or near the primary source area. Down gradient groundwater flow would then mix and transport the dissolved phase hydrocarbons toward the southeast. Eventually, at some point down gradient of the source area, the groundwater impacted with hydrocarbons will naturally attenuate through microbial degradation processes.

Figure 3 illustrates the trends in benzene concentrations detected in site monitoring wells versus time (i.e., 2-3 years). Hydrocarbon concentration trend analysis is a means of monitoring progress. The plot shows the level of hydrocarbons since the initial site assessment phase and following the soil remediation effort that was performed in October 2008.

Five or more data points are generally regarded as the minimum for estimating temporal data trends. The fewer the number of data sets, the greater the potential for error. The benzene trend plot also provides an indication of outliers, or extreme observations, in the data. If there are, it is important to determine whether they reflect a real departure from the general trend.

This plot will ultimately provide an estimate of natural attenuation success and plume morphology over time. In addition, concentration data will eventually be plotted on a logarithmic scale against time on a linear scale to capture both large and small changes.

Eventually the contaminant concentrations are expected to be reduced to levels that minimize the risk to human and environmental health. As mentioned above, no human receptors have been identified down gradient of primary source area.

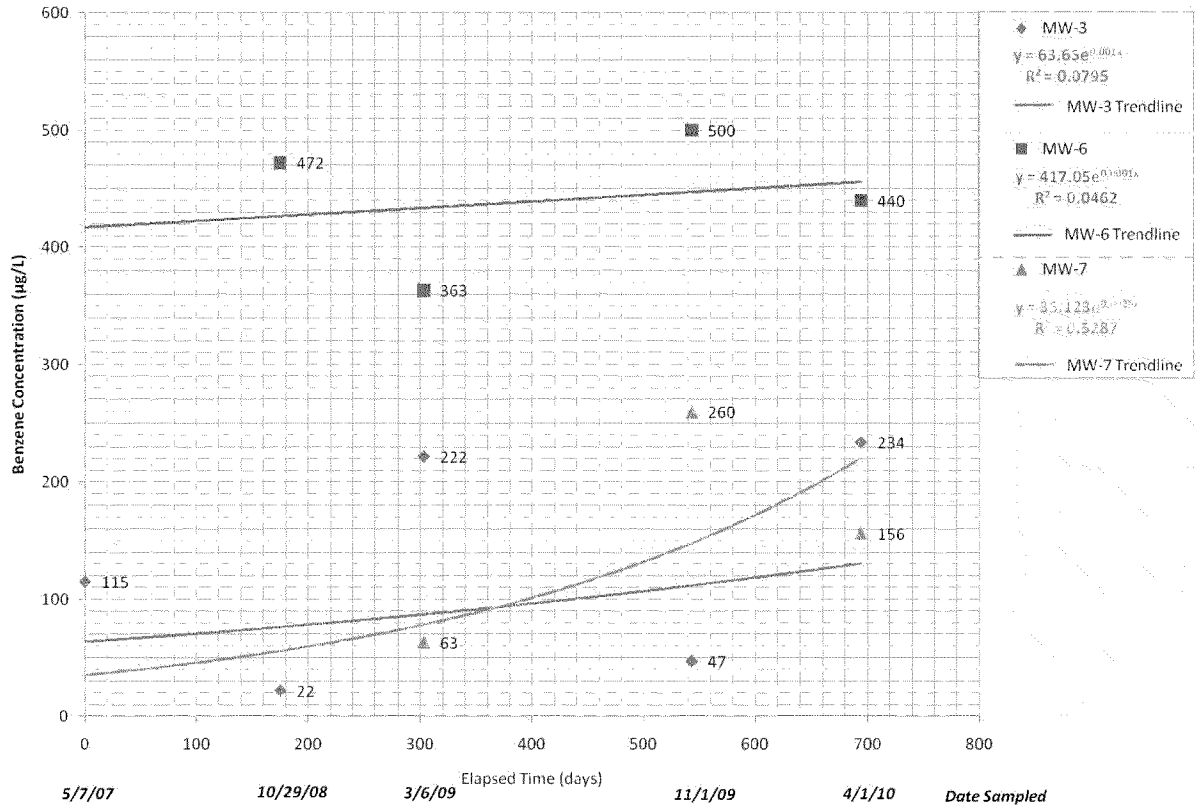

Figure 3. TP 14-11 Benzene Trend Analysis Plot

3.0 DEVELOPMENT OF REMEDIAL ACTION ALTERNATIVES

3.1 Remedial Action Objectives (RAOs)

Remedial action objectives for the TP-14-11 are as follows:

- Reduction of all groundwater COCs to levels at or below the cleanup levels described below within a reasonable time period; and
- Collection of sufficient monitoring data over time to demonstrate that remediation is effective and progressing at a reasonable rate and is not being hindered by on-going sources or unfavorable conditions.

Groundwater COCs were identified and associated cleanup levels for soil and groundwater have been established for TP-14-11 (Tables 4 and 5). These site specific cleanup levels are applicable to this site only and shall not be used for any other purpose. Groundwater cleanup levels for the site are based on the VRP Soil and Groundwater Cleanup Level Tables in consideration of VRP Fact Sheet #12, Appendix: Cleanup Levels for Total Petroleum Hydrocarbons (TPH) in Soil and Groundwater and VRP Fact Sheet #13.

The selected groundwater cleanup levels meet the four threshold criteria established in the EQA W.S. 35-11-1605(a):

- Be protective of human health and the environment;
- Comply with applicable standards;
- Control the source(s) of release so as to reduce or eliminate, to the extent practicable, further releases of contaminants; and
- Comply with applicable standards for waste management

Table 4. Groundwater Cleanup Levels for Volatile Organic Compounds (VOCs)

Product Parameter/Constituent	Cleanup Level (ug/L)
Benzene	5
Toluene	1,000
Ethylbenzene	700
Xylenes	10,000

Table 5. Groundwater Cleanup Levels for Petroleum Hydrocarbon Contamination

Product	Parameter/Constituent	Cleanup Level
Gasoline	TPH, GRO	7.3 mg/L [a]
	Naphthalene [d]	0.729 mg/L
	2-Methylnaphthalene [d]	0.146 mg/L
Diesel/Crude Oil	TPH DRO [b]	1.1 mg/L [b]
	TPH DRO [c]	or 10 mg/L [c]
	Naphthalene [d]	same as gasoline
	2-Methylnaphthalene [d]	same as gasoline

[a] Cleanup level based on protection of groundwater for non-cancer effects during drinking water use (Drinking Water Equivalent Level (DWEL) equation, Chapter 17 Wyoming Water Quality Rules and Regulations).

[b] Cleanup level based on protection of groundwater for non-cancer effects during drinking water use (Drinking Water Equivalent Level equation, Chapter 17 Wyoming Water Quality Rules and Regulations). This level is applicable when naphthalene and/or methylnaphthalenes along with the other chemicals of concern are detected in groundwater above Maximum Contaminant Level (MCL)/Wyoming Drinking Water Equivalent Level (DWEL) (assuming that reporting limits are adequate in comparison to cleanup levels) OR when there is free product present on the groundwater table.

[c] Cleanup level based on Chapter 4 and Chapter 17, Wyoming Water Quality Rules and Regulations. This level is applicable when naphthalene and/or 2-Methylnaphthalene along with the other chemicals of concern are below MCL/DWEL concentrations in groundwater AND no free product is present on the groundwater table.

[d] These constituents are required for confirmation sampling on a site specific basis as described in Section 4 of VRP Fact Sheet #12, Appendix: Cleanup Levels for Total Petroleum Hydrocarbons (TPH)

*If naphthalene and BTEX concentrations are below the cleanup levels and free product is not present on the groundwater table, then TPH-GRO plus TPH-DRO must be equal to or less than 10 mg/L (action level).

3.2 Remedial Action Alternatives

Recent groundwater data collection has been performed to develop a site conceptual model and evaluation of remedial options for the TP 14-11 location. Several data gaps were addressed to facilitate the selection and design of a groundwater remedy including the installation of monitoring well MW-8 to establish the southeastern groundwater plume boundary. The data collection program also included groundwater sampling and analyses of geochemical parameters and hydraulic well testing and data interpretation. In addition, to better understand site conditions, the following characteristics were evaluated:

- Soil characteristics;
- Seasonal depth and flow direction of groundwater;
- General properties of the aquifer including background water quality;
- Location of hydrocarbon source areas relative to the overall site;
- Description and distribution of soil and groundwater hydrocarbons; and
- Estimated distance to human and ecological receptors.

In EnCana's opinion, the TP 14-11 groundwater remedy should be consistent with the level of risk associated with the known impacts. As such, the preferred remedial treatment of groundwater impacted by hydrocarbons at TP 14-11 is supplemented with the following components:

- Hydrocarbon releases have been controlled and there are no known continuing releases;
- Targeted source removal of approximately 940 cubic yards of contaminated soil was completed in October 2008;
- The extent of the hydrocarbon plume is well defined based on the monitoring well network and overall groundwater aquifer hydraulic characteristics; and
- Comply with applicable standards for waste management

To support the selection of the preferred groundwater remedial options for the TP 14-11, two general approaches are described below for purposes of comparison including (i) source removal with monitored natural attenuation (MNA) or enhanced MNA (EMNA) and (ii) source removal with in situ chemical oxidation.

3.3 Monitored Natural Attenuation (MNA)

Natural attenuation, or the reduction of mass, toxicity, mobility, volume, flux or concentrations of contaminants in soil or groundwater without human intervention, occurs through a number of physical, chemical and/or biological process. The use of passive groundwater remediation options (e.g., MNA) is consistent with DEQ and USEPA's initiatives provided certain conditions are met as defined below:

> *"the reliance of natural attenuation processes (within the context of a carefully controlled and monitored site cleanup approach) to achieve site-specific remedial objectives within a time frame that is reasonable compare to that offered by other more active methods" (USEPA OSWER, 1997).*

Natural attenuation, also commonly called biodegradation, of petroleum hydrocarbons (e.g., site compounds such BTEX compounds) occurs through their use by microorganisms as primary sources of carbon and energy. The degradation of petroleum hydrocarbons occurs most effectively under aerobic (oxygen reducing) conditions. However, biodegradation of petroleum hydrocarbons under anaerobic conditions may also be effective in degrading the total mass (Wiedemeier & Pound, 1998). Attenuation also occurs through dilution/dispersion, which in many cases is the primary mechanism for natural attenuation at a site. These physical processes of natural attenuation reduce concentrations when finite amounts of mass of contaminants migrate into an ever increasing volume of groundwater (dilution) or as contaminants are spread into groundwater by chemical diffusion (movement due to concentration gradients) and dispersion (Wiedemeier & Pound, 1998).

3.4 Enhanced Monitored Natural Attenuation (EMNA)

The distinction between MNA and EMNA is that MNA involves demonstrating that natural attenuation processes are resulting in the mass loss of hydrocarbons in the groundwater and therefore decreasing the aerial distribution of the plume. In comparison, EMNA involves enhancing existing rates of mass removal of hydrocarbons by amending groundwater with nutrients (e.g., sulfate) to increase the rate and extent of microbial degradation processes. For example, sulfate can be utilized as an electron acceptor to support the anaerobic oxidation of hydrocarbons in groundwater.

3.5 Chemical Oxidation

In situ chemical oxidation involves the delivery of chemical oxidants to hydrocarbon-impacted groundwater where oxidation reactions can cause carbon-to-carbon bonds within the hydrocarbon molecules to be broken. These reactions convert hydrocarbons to innocuous compounds such as carbon dioxide and water.

A number of oxidizing reagents are available for use in remediation projects (e.g. permanganate KMn_4, sodium persulfate $Na_2S_2O_8$, ozone O_3, hydrogen peroxide H_2O_2, Fenton's Reagent, etc). Each oxidant must be evaluated for effectiveness and feasibility prior to use during remediation projects. For instance, permanganate is unable to oxidize benzene while Fenton's Reagent may be ineffective in carbonate-rich aquifers. Because of oxidant-specific and site-specific factors discussed below, the ultimate feasibility of a chemical oxidation remediation program is usually evaluated using bench- or field-scale pilot studies.

The effectiveness of chemical oxidation to reduce hydrocarbon concentrations is influenced by a number of site-specific factors. Oxidation reactions are non-specific and a portion of chemical oxidants will be consumed through oxidation of naturally occurring organic matter, reduced mineral species, or overcoming other reducing chemical conditions within an aquifer. In these settings, increased amounts of chemical oxidants are needed to overcome the natural "oxidant demand" while degrading the target contaminant.

Some chemical oxidants, such as Fenton's Reagent, owe some or all of their effectiveness to the generation of hydroxyl ions (OH-) as an intermediate step to oxidizing hydrocarbons. In carbonate-rich (i.e. high alkalinity) environments similar to the TP 14-11 conditions, hydroxyl ions are scavenged by carbonate ions before degradation of hydrocarbon contaminants can occur. In contrast, oxidation by permanganate is generally enhanced in high-carbonate settings.

Soil and aquifer permeability must also be evaluated to determine the feasibility of a chemical oxidation remediation strategy. In low permeability environments oxidants may be inactivated before reaching the hydrocarbons targeted for remediation.

A number of health and safety factors need to be considered when evaluating the feasibility of chemical oxidation for groundwater remediation programs. One concern in the Tribal Pavillion area is the presence of underground utilities that are often within the boundary of contaminant plumes. Some chemical oxidants such as persulfate and peroxide can be corrosive and may present a hazard to underground pipelines. Oxidant delivery methods may involve extremely high pressures and, in some cases (e.g. when using peroxide or Fenton's Reagent), may result in highly exothermic conditions and generation of explosive gases that could pose hazards to pipelines and other underground utilities.

The interaction between chemical oxidants and geologic materials must be considered where down gradient receptors are sensitive to increased inorganic constituent concentrations in groundwater. Many naturally occurring elements (i.e. arsenic, iron, chromium, copper, selenium) become more soluble under oxidized conditions and can be mobilized into groundwater at concentrations above applicable water quality standards. Potassium permanganate and sodium permanganate, two common chemical oxidants, often contain arsenic, chromium, and lead as impurities.

Oxidation reactions may also dissolve or remobilize hydrocarbons that were previously immobilized through sorption to the aquifer matrix.

Additional concerns include worker health and safety during transport and handling of the chemical oxidants. High implementation costs are also a drawback with $200,000 being a fairly typical cost for relatively small sites (e.g. 100' x 100' site with a leaking UST) and costs in excess of $1 million are not unheard of.

Chemical oxidation-based remediation projects are considerably more complex than monitored natural attenuation (MNA) and enhanced monitored natural attenuation (EMNA) projects. Implementation of any of these strategies requires monitoring of groundwater conditions, reporting, and permitting activities. However, chemical oxidation requires additional inputs of chemical oxidants and associated infrastructure (e.g. injection wells, storages tanks) which can be costly and burdensome from transport and health and safety standpoints. Unlike chemical oxidation, MNA and EMNA pose no hazards to underground utilities and do not require additional pilot-scale studies or delays related to identifying suitable reactants.

3.6 Evaluation of Remedial Action Alternatives

The three potential remedial actions presented in this report (i.e. chemical oxidation and monitored natural attenuation, and enhanced monitored natural attenuation) were evaluated with respect to the four standards presented in VRP Fact Sheet # 21. All remedies under the voluntary remediation program must:

- Protect human health, safety, and the environment.
- Remediate contaminated air, soil, and water to attain applicable cleanup levels established under Federal or State law or regulation or to attain site-specific risk-based cleanup levels developed for the site in question.
- Control any sources of releases so as to reduce or eliminate, to the extent technically practicable, further releases as required to protect human health and the environment.
- Comply with any applicable standard for management of wastes generated as a consequence of the remedy.

Threats to human health, safety, and the environment attributable to the hydrocarbon plume at TP-14-11 are limited to the potential for contamination of down gradient private wells if the plume migrates off-site at concentrations that are harmful to human or livestock health. No such concentrations have been measured at sentinel well MW-8 indicating that the plume has not moved off-site.

If monitoring confirms that MNA or EMNA is effective at reducing or maintaining hydrocarbon concentrations within the perimeter of the current plume, and hydrocarbon concentrations at MW-8 remain at current non-detect levels, then either of these remediation alternatives would be effective at preventing threats to human health, safety, and the environment.

Chemical oxidation strategies could also be protective of human health, safety, and the environment as such strategies may offer active treatment of hydrocarbons, potentially reducing concentrations in a shorter time compared to MNA or EMNA processes. However, as discussed in Section 4.5, implementation of a chemical oxidation program could itself pose hazards to public health and safety. Of particular concern, if current non-detect hydrocarbon concentrations at monitoring well MW-8 are due to adsorption of hydrocarbons to the aquifer matrix, oxidation reactions may desorb the hydrocarbons resulting in greater mobilization of the plume and increased threats to down gradient receptors. Health and safety of workers and

nearby residents is also of concern if oxidation reactions compromise the integrity of underground gas lines or associated facilities.

The 2008 targeted soil excavation activities are believed to have removed the majority of hydrocarbon contaminated soil that was the source of contaminant loading to groundwater (Section 3.5) leaving in place only small isolated zones of impacted soil where excavation would not have been safe or effective. Therefore, with regard to item #3 above, control of the hydrocarbon source has already occurred and any additional remediation activities would be to treat residual impacts rather than further releases.

Neither of the three possible remediation alternatives would generate waste material other than perhaps containers used to store and transport chemical oxidants or any chemicals used for EMNA. In either case, all equipment and residual chemicals would be handled and disposed of using applicable approved methods.

Cost and ease of implementation are also considerations when evaluating remedial alternatives. All of the three alternatives would have similar monitoring, reporting, and permitting costs. However, chemical oxidation would additionally require substantial costs related to purchase and transport of chemicals, infrastructure (i.e. injection wells and/or related equipment), and trained manpower. A pilot study would also be required to evaluate the actual feasibility of a chemical oxidation program prior to full-scale implementation.

Chemical oxidation is not being recommended for use at the TP-14-11 site due to uncertainty surrounding the effectiveness and ease of implementation of such a program, the high cost, human health and safety risks, and the potential to increase the mobility of hydrocarbons in the aquifer. Instead, a MNA approach is recommended which could later be modified to an EMNA strategy if the need was suggested by monitoring data.

4.0 RECOMMENDED REMEDY

4.1 Monitored Natural Attenuation

EnCana proposes MNA as the recommended groundwater remediation alternative for TP 14-11 with EMNA as a contingency alternative. Based on the Wyoming DEQ's acceptance of this preferred remedy, EnCana will initiate specific tasks that support MNA as the selected site groundwater remedy. Examples of specific tasks include continuing collection of MNA – related chemical parameters to obtain groundwater conditions. The indicator parameters to be monitored include dissolved oxygen (DO), Oxygen-Reduction Potential (ORP), pH, alkalinity, nitrate, dissolved ferrous iron, manganese, sulfate, and methanogenesis. Results of this data will be used to determine the status of microbial degradation of hydrocarbons. In addition, obtaining groundwater elevation and geochemical data on a quarterly basis will allow a more thorough evaluation of patterns of contaminant concentrations and natural attenuation indicator parameters.

Following compilation and evaluation of the data, assessment findings will be reported at least semiannually to support the selection of this alternative. This data will also provide evidence for the primary mechanism for reducing contaminant concentrations and include an estimated timeframe for achieving the potential remediation objective. Further development of the TP 14-11 site conceptual model to support the MNA groundwater remediation alternative's effectiveness will also be a focus. A remedial action plan will be developed to describe controls associated with the remedy, a schedule, and other supporting information.

4.2 Recommended Monitoring and Analytical Methods Schedule 2010 - 2015

Table 6 provides a schedule including the types of analysis for the groundwater samples. Field measurements (e.g., dissolved oxygen, water levels, temperature, redox potential, and conductivity) will also be collected.

Table 6. Proposed Sampling Event Schedule and Suite of Analyses for TP-14-11

Sampling Event	MNA *Geochemical Parameters	Volatile Organic Compounds (VOCs) by EPA Method 8260	Gasoline Range Organics (GRO) by EPA Method 8015	Diesel Range Organics (DRO) by EPA Method 8015
October 2010	X	X	X	X
January 2011	X	X	X	X
April 2011	X	X	X	X
August 2011	X	X	X	X
October 2011	X	X	X	X
January 2012	X	X	X	X
April 2012	X	X	X	X
August 2012	X	X	X	X
October 2012	X	X	X	X
January 2013	X	X	X	X
April 2013	X	X	X	X
August 2013	X	X	X	X
October 2013	X	X	X	X
January 2014	X	X	X	X
April 2014	X	X	X	X
August 2014	X	X	X	X
October 2014	X	X	X	X
January 2015	X	X	X	X
April 2015	X	X	X	X
August 2015	X	X	X	X
October 2015	X	X	X	X

*MNA geochemical parameters: alkalinity, total organic carbon, ammonia, Kjeldahl nitrogen, microbial electron acceptors (nitrate + nitrite and sulfate), total iron, total manganese, sulfide, and methane.

4.3 Recommended Points of Compliance

Based on the information gathered, EnCana will identify a subset of groundwater monitoring wells to identify points of compliance. At this time, monitoring wells MW-3, MW-5, MW-6, and MW-8 appear to be good candidate wells for monitoring the success of the MNA remedy.

5.0 SUMMARY

Site assessment activities conducted by EnCana beginning in 2006 have identified a hydrocarbon groundwater plume at the TP 14-11 natural gas well location resulting from the historic use of unlined pits which leaked hydrocarbon liquids into the subsurface environment. A targeted remediation project followed whereby approximately 940 cubic yards of contaminated soil was excavated from the area beneath the pit footprint.

Recent groundwater monitoring data show that a hydrocarbon plume persists down gradient of the excavated area. There is also evidence that residual hydrocarbons at the groundwater surface are seasonally re-mobilized and measured in samples collected from MW-3, -6, and -7.

No deleterious impacts have been measured at sentinel well MW-8 and no human receptors have been identified down gradient of the known source area for up to 0.5 mile.

EnCana proposes Monitored Natural Attenuation as the recommended groundwater remediation alternative to implement at TP 14-11 with Enhanced Monitored Natural Attenuation as a contingency alternative.

Based on the Wyoming DEQ's acceptance of this preferred remedy, EnCana will initiate specific tasks to collect data to be used to determine the status of microbial degradation of hydrocarbons. In addition, geochemical data will allow an evaluation of patterns of contaminant concentrations and natural attenuation indicator parameters. Following compilation and evaluation of the data, assessment findings will be reported at least semiannually to support the selection of this alternative. These data will also provide evidence for the primary mechanism for reducing contaminant concentrations and include an estimated timeframe for achieving the potential remediation objective. Further development of the TP 14-11 site conceptual model to support the MNA groundwater remediation alternative's effectiveness will also be a focus. A remedial action plan will be developed.

6.0 REFERENCES

Bouwer, H. and R.C. Rice. 1976. A slug test method for determining hydraulic conductivity of unconfined aquifers with completely or partially penetrating wells. Water Resources Research. Vol. 12, no. 3, pp. 443-428.

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Attachment 1.

April 2010 Laboratory Analytical Results

ENERGY LABORATORIES, INC. * 1120 S 27th St * PO Box 30916 * Billings, MT 59107-0916
Toll Free 800.735.4489 * 406.252.6325 * FAX 406.252.6069 * eli@energylab.com

ANALYTICAL SUMMARY REPORT

April 22, 2010

Mike Larson
Encana Oil and Gas USA Inc
462 S Federal
Riverton, WY 82501-4732

Workorder No.: B10041312

Project Name: Tribal Pavillion 14-11 (VRP)

Energy Laboratories Inc received the following 11 samples for Encana Oil and Gas USA Inc on 4/15/2010 for analysis.

Sample ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B10041312-001	TP 14-11 MW1A	04/13/10 10:05	04/15/10	Aqueous	DRO-Liquid-Liquid Extraction Diesel Range Organics, API Gasoline Range Organics 8260-Volatile Organic Compounds-Short
B10041312-002	TP 14-11 MW1B	04/13/10 10:10	04/15/10	Aqueous	Same As Above
B10041312-003	TP 14-11 MW2	04/13/10 10:45	04/15/10	Aqueous	Same As Above
B10041312-004	TP 14-11 MW3	04/13/10 14:00	04/15/10	Aqueous	Same As Above
B10041312-005	TP 14-11 MW4	04/13/10 14:30	04/15/10	Aqueous	Same As Above
B10041312-006	TP 14-11 MW5	04/13/10 11:15	04/15/10	Aqueous	Same As Above
B10041312-007	TP 14-11 MW6	04/13/10 15:00	04/15/10	Aqueous	Same As Above
B10041312-008	TP 14-11 MW7	04/13/10 13:20	04/15/10	Aqueous	Same As Above
B10041312-009	TP 14-11 MW8	04/13/10 15:30	04/15/10	Aqueous	Same As Above
B10041312-010	Trip Blank #3 Lot #033010, B-TS 0246	04/13/10 10:05	04/15/10	Trip Blank	8260-Volatile Organic Compounds-Short
B10041312-011	Trip Blank #4 Lot #033010, B-TS 0246	04/13/10 14:00	04/15/10	Trip Blank	Same As Above

Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

The results as reported relate only to the item(s) submitted for testing.

If you have any questions regarding these test results, please call.

Report Approved By: William T Brown
President

Digitally signed by
Bill Brown
Date: 2010.04.23 06:52:31 -06:00

ENERGY LABORATORIES, INC. * 1120 S 27th St * PO Box 30916 * Billings, MT 59107-0916
Toll Free 800.735.4489 * 406.252.6325 * FAX 406.252.6069 * eli@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-001
Client Sample ID: TP 14-11 MW1A

Report Date: 04/22/10
Collection Date: 04/13/10 10:05
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	0.58	ug/L	J	1.0		SW8260B	04/20/10 16:11 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Ethylbenzene	12	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/20/10 16:11 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Toluene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
J - Estimated value. The analyte was present but less than the reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-001
Client Sample ID: TP 14-11 MW1A

Report Date: 04/22/10
Collection Date: 04/13/10 10:05
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
m+p-Xylenes	3.3	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
o-Xylene	ND	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Xylenes, Total	3.3	ug/L		1.0		SW8260B	04/20/10 16:11 / jrj
Surr: Dibromofluoromethane	99.0	%REC		77-126		SW8260B	04/20/10 16:11 / jrj
Surr: 1,2-Dichloroethane-d4	98.0	%REC		70-130		SW8260B	04/20/10 16:11 / jrj
Surr: Toluene-d8	100	%REC		79-122		SW8260B	04/20/10 16:11 / jrj
Surr: p-Bromofluorobenzene	95.0	%REC		76-127		SW8260B	04/20/10 16:11 / jrj
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	272	ug/L		20		SW8015M as	04/19/10 14:27 / bw
GRO as Gasoline	272	ug/L		20		SW8015M as	04/19/10 14:27 / bw
Total Purgeable Hydrocarbons	409	ug/L		20		SW8015M as	04/19/10 14:27 / bw
Surr: Trifluorotoluene	106	%REC		50-150		SW8015M as	04/19/10 14:27 / bw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.
- Note 2: GRO as Gasoline is defined by the analyst as the portion of the GRO range that resembles gasoline.
- Note 3: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

PETROLEUM HYDROCARBONS-SEMI-VOLATILE							
Diesel Range Organics (DRO)	0.59	mg/L		0.30		SW8015M as	04/18/10 16:16 / pbf
Diesel Range Organics as Diesel	ND	mg/L		0.30		SW8015M as	04/18/10 16:16 / pbf
Total Extractable Hydrocarbons	0.91	mg/L		0.30		SW8015M as	04/18/10 16:16 / pbf
Surr: o-Terphenyl	63.0	%REC		50-150		SW8015M as	04/18/10 16:16 / pbf

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.
- Note 2: Diesel Range Organics as Diesel are defined by the analyst as the portion of the chromatogram between C10 and C28 that resembles diesel fuel.
- Note 3: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level.
QCL - Quality control limit. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-002
Client Sample ID: TP 14-11 MW1B

Report Date: 04/22/10
Collection Date: 04/13/10 10:10
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	0.51	ug/L	J	1.0		SW8260B	04/20/10 16:49 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Ethylbenzene	13	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/20/10 16:49 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Toluene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
J - Estimated value. The analyte was present but less than the reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-002
Client Sample ID: TP 14-11 MW1B

Report Date: 04/22/10
Collection Date: 04/13/10 10:10
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
m+p-Xylenes	3.5	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
o-Xylene	ND	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Xylenes, Total	3.5	ug/L		1.0		SW8260B	04/20/10 16:49 / jrj
Surr: Dibromofluoromethane	96.0	%REC		77-126		SW8260B	04/20/10 16:49 / jrj
Surr: 1,2-Dichloroethane-d4	96.0	%REC		70-130		SW8260B	04/20/10 16:49 / jrj
Surr: Toluene-d8	97.0	%REC		79-122		SW8260B	04/20/10 16:49 / jrj
Surr: p-Bromofluorobenzene	94.0	%REC		76-127		SW8260B	04/20/10 16:49 / jrj
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	294	ug/L		20		SW8015M as	04/19/10 15:36 / bw
GRO as Gasoline	294	ug/L		20		SW8015M as	04/19/10 15:36 / bw
Total Purgeable Hydrocarbons	444	ug/L		20		SW8015M as	04/19/10 15:36 / bw
Surr: Trifluorotoluene	101	%REC		50-150		SW8015M as	04/19/10 15:36 / bw
PETROLEUM HYDROCARBONS-SEMI-VOLATILE							
Diesel Range Organics (DRO)	0.65	mg/L		0.30		SW8015M as	04/18/10 17:03 / pbf
Diesel Range Organics as Diesel	ND	mg/L		0.30		SW8015M as	04/18/10 17:03 / pbf
Total Extractable Hydrocarbons	0.90	mg/L		0.30		SW8015M as	04/18/10 17:03 / pbf
Surr: o-Terphenyl	57.0	%REC		50-150		SW8015M as	04/18/10 17:03 / pbf

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.
- Note 2: GRO as Gasoline is defined by the analyst as the portion of the GRO range that resembles gasoline.
- Note 3: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.
- Note 2: Diesel Range Organics as Diesel are defined by the analyst as the portion of the chromatogram between C10 and C28 that resembles diesel fuel.
- Note 3: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level.
QCL - Quality control limit. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-003
Client Sample ID: TP 14-11 MW2

Report Date: 04/22/10
Collection Date: 04/13/10 10:45
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/20/10 17:27 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Toluene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level.
QCL - Quality control limit. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-003
Client Sample ID: TP 14-11 MW2

Report Date: 04/22/10
Collection Date: 04/13/10 10:45
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
o-Xylene	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/20/10 17:27 / jrj
Surr: Dibromofluoromethane	97.0	%REC		77-126		SW8260B	04/20/10 17:27 / jrj
Surr: 1,2-Dichloroethane-d4	90.0	%REC		70-130		SW8260B	04/20/10 17:27 / jrj
Surr: Toluene-d8	101	%REC		79-122		SW8260B	04/20/10 17:27 / jrj
Surr: p-Bromofluorobenzene	107	%REC		76-127		SW8260B	04/20/10 17:27 / jrj
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	ND	ug/L		20		SW8015M as	04/19/10 18:26 / bw
GRO as Gasoline	ND	ug/L		20		SW8015M as	04/19/10 18:26 / bw
Total Purgeable Hydrocarbons	ND	ug/L		20		SW8015M as	04/19/10 18:26 / bw
Surr: Trifluorotoluene	91.0	%REC		50-150		SW8015M as	04/19/10 18:26 / bw
PETROLEUM HYDROCARBONS-SEMI-VOLATILE							
Diesel Range Organics (DRO)	ND	mg/L		0.30		SW8015M as	04/18/10 18:36 / pbf
Diesel Range Organics as Diesel	ND	mg/L		0.30		SW8015M as	04/18/10 18:36 / pbf
Total Extractable Hydrocarbons	0.46	mg/L		0.30		SW8015M as	04/18/10 18:36 / pbf
Surr: o-Terphenyl	79.0	%REC		50-150		SW8015M as	04/18/10 18:36 / pbf

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.
- Note 2: GRO as Gasoline is defined by the analyst as the portion of the GRO range that resembles gasoline.
- Note 3: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.
- The sample was received in the laboratory with a pH > 2. The pH was 6.

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.
- Note 2: Diesel Range Organics as Diesel are defined by the analyst as the portion of the chromatogram between C10 and C28 that resembles diesel fuel.
- Note 3: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level.
QCL - Quality control limit. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-004
Client Sample ID: TP 14-11 MW3

Report Date: 04/22/10
Collection Date: 04/13/10 14:00
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	234	ug/L		20		SW8260B	04/21/10 17:56 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Ethylbenzene	39	ug/L		20		SW8260B	04/21/10 17:56 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/20/10 18:08 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Toluene	0.37	ug/L	J	1.0		SW8260B	04/20/10 18:08 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
J - Estimated value. The analyte was present but less than the reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-004
Client Sample ID: TP 14-11 MW3

Report Date: 04/22/10
Collection Date: 04/13/10 14:00
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
m+p-Xylenes	26	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
o-Xylene	2.2	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Xylenes, Total	28	ug/L		1.0		SW8260B	04/20/10 18:08 / jrj
Surr: Dibromofluoromethane	99.0	%REC		77-126		SW8260B	04/20/10 18:08 / jrj
Surr: 1,2-Dichloroethane-d4	96.0	%REC		70-130		SW8260B	04/20/10 18:08 / jrj
Surr: Toluene-d8	104	%REC		79-122		SW8260B	04/20/10 18:08 / jrj
Surr: p-Bromofluorobenzene	96.0	%REC		76-127		SW8260B	04/20/10 18:08 / jrj
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	1090	ug/L		40		SW8015M as	04/20/10 11:57 / bw
GRO as Gasoline	1090	ug/L		40		SW8015M as	04/20/10 11:57 / bw
Total Purgeable Hydrocarbons	1860	ug/L		40		SW8015M as	04/20/10 11:57 / bw
Surr: Trifluorotoluene	92.0	%REC		50-150		SW8015M as	04/20/10 11:57 / bw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.
- Note 2: GRO as Gasoline is defined by the analyst as the portion of the GRO range that resembles gasoline.
- Note 3: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.
- The sample was received in the laboratory with a pH > 2. The pH was 8.

PETROLEUM HYDROCARBONS-SEMI-VOLATILE							
Diesel Range Organics (DRO)	52	mg/L		0.30		SW8015M as	04/18/10 19:23 / pbf
Diesel Range Organics as Diesel	ND	mg/L		0.30		SW8015M as	04/18/10 19:23 / pbf
Total Extractable Hydrocarbons	55	mg/L		0.30		SW8015M as	04/18/10 19:23 / pbf
Surr: o-Terphenyl	44.0	%REC	S	50-150		SW8015M as	04/18/10 19:23 / pbf

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.
- Note 2: Diesel Range Organics as Diesel are defined by the analyst as the portion of the chromatogram between C10 and C28 that resembles diesel fuel.
- Note 3: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.
- S=Spike recovery outside QC advisory limits. The sample contained a layer of sediment that may have strongly adsorbed the spike and/or reduced extraction efficiency.

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
S - Spike recovery outside of advisory limits.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-005
Client Sample ID: TP 14-11 MW4

Report Date: 04/22/10
Collection Date: 04/13/10 14:30
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/20/10 18:46 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Toluene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj

Report Definitions: RL - Analyte reporting limit. QCL - Quality control limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-005
Client Sample ID: TP 14-11 MW4

Report Date: 04/22/10
Collection Date: 04/13/10 14:30
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
o-Xylene	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/20/10 18:46 / jrj
Surr: Dibromofluoromethane	98.0	%REC		77-126		SW8260B	04/20/10 18:46 / jrj
Surr: 1,2-Dichloroethane-d4	94.0	%REC		70-130		SW8260B	04/20/10 18:46 / jrj
Surr: Toluene-d8	108	%REC		79-122		SW8260B	04/20/10 18:46 / jrj
Surr: p-Bromofluorobenzene	101	%REC		76-127		SW8260B	04/20/10 18:46 / jrj
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	ND	ug/L		20		SW8015M as	04/19/10 21:12 / bw
GRO as Gasoline	ND	ug/L		20		SW8015M as	04/19/10 21:12 / bw
Total Purgeable Hydrocarbons	ND	ug/L		20		SW8015M as	04/19/10 21:12 / bw
Surr: Trifluorotoluene	94.0	%REC		50-150		SW8015M as	04/19/10 21:12 / bw
PETROLEUM HYDROCARBONS-SEMI-VOLATILE							
Diesel Range Organics (DRO)	ND	mg/L		0.30		SW8015M as	04/20/10 23:01 / mdw
Diesel Range Organics as Diesel	ND	mg/L		0.30		SW8015M as	04/20/10 23:01 / mdw
Total Extractable Hydrocarbons	ND	mg/L		0.30		SW8015M as	04/20/10 23:01 / mdw
Surr: o-Terphenyl	50.0	%REC		50-150		SW8015M as	04/20/10 23:01 / mdw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.
- Note 2: GRO as Gasoline is defined by the analyst as the portion of the GRO range that resembles gasoline.
- Note 3: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.
- The sample was received in the laboratory with a pH > 2. The pH was 6.

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.
- Note 2: Diesel Range Organics as Diesel are defined by the analyst as the portion of the chromatogram between C10 and C28 that resembles diesel fuel.
- Note 3: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

Report Definitions: RL - Analyte reporting limit. QCL - Quality control limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-006
Client Sample ID: TP 14-11 MW5

Report Date: 04/22/10
Collection Date: 04/13/10 11:15
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/20/10 19:24 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Toluene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-006
Client Sample ID: TP 14-11 MW5

Report Date: 04/22/10
Collection Date: 04/13/10 11:15
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
o-Xylene	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/20/10 19:24 / jrj
Surr: Dibromofluoromethane	96.0	%REC		77-126		SW8260B	04/20/10 19:24 / jrj
Surr: 1,2-Dichloroethane-d4	90.0	%REC		70-130		SW8260B	04/20/10 19:24 / jrj
Surr: Toluene-d8	102	%REC		79-122		SW8260B	04/20/10 19:24 / jrj
Surr: p-Bromofluorobenzene	102	%REC		76-127		SW8260B	04/20/10 19:24 / jrj
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	ND	ug/L		20		SW8015M as	04/19/10 22:18 / bw
GRO as Gasoline	ND	ug/L		20		SW8015M as	04/19/10 22:18 / bw
Total Purgeable Hydrocarbons	55	ug/L		20		SW8015M as	04/19/10 22:18 / bw
Surr: Trifluorotoluene	94.0	%REC		50-150		SW8015M as	04/19/10 22:18 / bw
PETROLEUM HYDROCARBONS-SEMI-VOLATILE							
Diesel Range Organics (DRO)	0.38	mg/L		0.30		SW8015M as	04/18/10 21:42 / pbf
Diesel Range Organics as Diesel	ND	mg/L		0.30		SW8015M as	04/18/10 21:42 / pbf
Total Extractable Hydrocarbons	0.74	mg/L		0.30		SW8015M as	04/18/10 21:42 / pbf
Surr: o-Terphenyl	50.0	%REC		50-150		SW8015M as	04/18/10 21:42 / pbf

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.
- Note 2: GRO as Gasoline is defined by the analyst as the portion of the GRO range that resembles gasoline.
- Note 3: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.
- The sample was received in the laboratory with a pH > 2. The pH was 6.

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.
- Note 2: Diesel Range Organics as Diesel are defined by the analyst as the portion of the chromatogram between C10 and C28 that resembles diesel fuel.
- Note 3: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level.
QCL - Quality control limit. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-007
Client Sample ID: TP 14-11 MW6

Report Date: 04/22/10
Collection Date: 04/13/10 15:00
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	440	ug/L		50		SW8260B	04/21/10 19:14 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Ethylbenzene	97	ug/L		50		SW8260B	04/21/10 19:14 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/20/10 20:02 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Toluene	0.18	ug/L	J	1.0		SW8260B	04/20/10 20:02 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
J - Estimated value. The analyte was present but less than the reporting limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-007
Client Sample ID: TP 14-11 MW6

Report Date: 04/22/10
Collection Date: 04/13/10 15:00
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
m+p-Xylenes	29	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
o-Xylene	ND	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Xylenes, Total	29	ug/L		1.0		SW8260B	04/20/10 20:02 / jrj
Surr: Dibromofluoromethane	101	%REC		77-126		SW8260B	04/20/10 20:02 / jrj
Surr: 1,2-Dichloroethane-d4	94.0	%REC		70-130		SW8260B	04/20/10 20:02 / jrj
Surr: Toluene-d8	99.0	%REC		79-122		SW8260B	04/20/10 20:02 / jrj
Surr: p-Bromofluorobenzene	106	%REC		76-127		SW8260B	04/20/10 20:02 / jrj
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	1900	ug/L		100		SW8015M as	04/19/10 23:24 / bw
GRO as Gasoline	1900	ug/L		100		SW8015M as	04/19/10 23:24 / bw
Total Purgeable Hydrocarbons	3100	ug/L		100		SW8015M as	04/19/10 23:24 / bw
Surr: Trifluorotoluene	103	%REC		50-150		SW8015M as	04/19/10 23:24 / bw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.
- Note 2: GRO as Gasoline is defined by the analyst as the portion of the GRO range that resembles gasoline.
- Note 3: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.
- The sample was received in the laboratory with a pH > 2. The pH was 8.

PETROLEUM HYDROCARBONS-SEMI-VOLATILE							
Diesel Range Organics (DRO)	43	mg/L		0.30		SW8015M as	04/18/10 22:29 / pbf
Diesel Range Organics as Diesel	ND	mg/L		0.30		SW8015M as	04/18/10 22:29 / pbf
Total Extractable Hydrocarbons	46	mg/L		0.30		SW8015M as	04/18/10 22:29 / pbf
Surr: o-Terphenyl	26.0	%REC	S	50-150		SW8015M as	04/18/10 22:29 / pbf

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.
- Note 2: Diesel Range Organics as Diesel are defined by the analyst as the portion of the chromatogram between C10 and C28 that resembles diesel fuel.
- Note 3: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.
- S=Surrogate recovery outside QC advisory limits. The sample contained a layer of sediment that may have strongly adsorbed the surrogate and/or reduced extraction efficiency.

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
S - Spike recovery outside of advisory limits.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-008
Client Sample ID: TP 14-11 MW7

Report Date: 04/22/10
Collection Date: 04/13/10 13:20
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	156	ug/L		10		SW8260B	04/21/10 18:34 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Ethylbenzene	189	ug/L		10		SW8260B	04/21/10 18:34 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/20/10 20:40 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Toluene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-008
Client Sample ID: TP 14-11 MW7

Report Date: 04/22/10
Collection Date: 04/13/10 13:20
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
m+p-Xylenes	9.7	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
o-Xylene	ND	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Xylenes, Total	9.7	ug/L		1.0		SW8260B	04/20/10 20:40 / jrj
Surr: Dibromofluoromethane	100	%REC		77-126		SW8260B	04/20/10 20:40 / jrj
Surr: 1,2-Dichloroethane-d4	105	%REC		70-130		SW8260B	04/20/10 20:40 / jrj
Surr: Toluene-d8	100	%REC		79-122		SW8260B	04/20/10 20:40 / jrj
Surr: p-Bromofluorobenzene	97.0	%REC		76-127		SW8260B	04/20/10 20:40 / jrj
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	507	ug/L		20		SW8015M as	04/20/10 01:03 / bw
GRO as Gasoline	507	ug/L		20		SW8015M as	04/20/10 01:03 / bw
Total Purgeable Hydrocarbons	874	ug/L		20		SW8015M as	04/20/10 01:03 / bw
Surr: Trifluorotoluene	106	%REC		50-150		SW8015M as	04/20/10 01:03 / bw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.
- Note 2: GRO as Gasoline is defined by the analyst as the portion of the GRO range that resembles gasoline.
- Note 3: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.
- The sample was received in the laboratory with a pH > 2. The pH was 8.

PETROLEUM HYDROCARBONS-SEMI-VOLATILE							
Diesel Range Organics (DRO)	11	mg/L		0.30		SW8015M as	04/19/10 00:48 / pbf
Diesel Range Organics as Diesel	ND	mg/L		0.30		SW8015M as	04/19/10 00:48 / pbf
Total Extractable Hydrocarbons	12	mg/L		0.30		SW8015M as	04/19/10 00:48 / pbf
Surr: o-Terphenyl	53.0	%REC		50-150		SW8015M as	04/19/10 00:48 / pbf

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.
- Note 2: Diesel Range Organics as Diesel are defined by the analyst as the portion of the chromatogram between C10 and C28 that resembles diesel fuel.
- Note 3: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level.
QCL - Quality control limit. ND - Not detected at the reporting limit.

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Toll Free 800.735.4489 * 406.252.6325 * FAX 406.252.6069 * eli@energylab.com

LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-009
Client Sample ID: TP 14-11 MW8

Report Date: 04/22/10
Collection Date: 04/13/10 15:30
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/21/10 12:46 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Toluene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level.
QCL - Quality control limit. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-009
Client Sample ID: TP 14-11 MW8

Report Date: 04/22/10
Collection Date: 04/13/10 15:30
DateReceived: 04/15/10
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
o-Xylene	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/21/10 12:46 / jrj
Surr: Dibromofluoromethane	100	%REC		77-126		SW8260B	04/21/10 12:46 / jrj
Surr: 1,2-Dichloroethane-d4	95.0	%REC		70-130		SW8260B	04/21/10 12:46 / jrj
Surr: Toluene-d8	103	%REC		79-122		SW8260B	04/21/10 12:46 / jrj
Surr: p-Bromofluorobenzene	121	%REC		76-127		SW8260B	04/21/10 12:46 / jrj
PETROLEUM HYDROCARBONS-VOLATILE							
Gasoline Range Organics (GRO)	68	ug/L		20		SW8015M as	04/20/10 13:36 / bw
GRO as Gasoline	68	ug/L		20		SW8015M as	04/20/10 13:36 / bw
Total Purgeable Hydrocarbons	151	ug/L		20		SW8015M as	04/20/10 13:36 / bw
Surr: Trifluorotoluene	92.0	%REC		50-150		SW8015M as	04/20/10 13:36 / bw

- Note 1: Gasoline Range Organics(GRO) are defined as all hydrocarbons eluting between 2-Methylpentane and 1,2,4-Trimethylbenzene.
- Note 2: GRO as Gasoline is defined by the analyst as the portion of the GRO range that resembles gasoline.
- Note 3: Total Purgeable Hydrocarbons are defined as the total hydrocarbon responses regardless of elution time.
- The sample was received in the laboratory with a pH > 2. The pH was 5.

PETROLEUM HYDROCARBONS-SEMI-VOLATILE							
Diesel Range Organics (DRO)	1.1	mg/L		0.30		SW8015M as	04/19/10 01:35 / pbf
Diesel Range Organics as Diesel	ND	mg/L		0.30		SW8015M as	04/19/10 01:35 / pbf
Total Extractable Hydrocarbons	1.4	mg/L		0.30		SW8015M as	04/19/10 01:35 / pbf
Surr: o-Terphenyl	68.0	%REC		50-150		SW8015M as	04/19/10 01:35 / pbf

- Note 1: Diesel Range Organics are defined as all hydrocarbons eluting between C10 and C28.
- Note 2: Diesel Range Organics as Diesel are defined by the analyst as the portion of the chromatogram between C10 and C28 that resembles diesel fuel.
- Note 3: Total Extractable Hydrocarbons are defined as the total hydrocarbon response regardless of elution time.

Report Definitions: RL - Analyte reporting limit. MCL - Maximum contaminant level.
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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-010
Client Sample ID: Trip Blank #3 Lot #033010, B-TS 0246

Report Date: 04/22/10
Collection Date: 04/13/10 10:05
DateReceived: 04/15/10
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/20/10 15:33 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Toluene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-010
Client Sample ID: Trip Blank #3 Lot #033010, B-TS 0246

Report Date: 04/22/10
Collection Date: 04/13/10 10:05
DateReceived: 04/15/10
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
o-Xylene	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/20/10 15:33 / jrj
Surr: Dibromofluoromethane	98.0	%REC		77-126		SW8260B	04/20/10 15:33 / jrj
Surr: 1,2-Dichloroethane-d4	92.0	%REC		70-130		SW8260B	04/20/10 15:33 / jrj
Surr: Toluene-d8	104	%REC		79-122		SW8260B	04/20/10 15:33 / jrj
Surr: p-Bromofluorobenzene	101	%REC		76-127		SW8260B	04/20/10 15:33 / jrj

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-011
Client Sample ID: Trip Blank #4 Lot #033010, B-TS 0246

Report Date: 04/22/10
Collection Date: 04/13/10 14:00
DateReceived: 04/15/10
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Benzene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Bromobenzene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Bromochloromethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Bromodichloromethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Bromoform	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Bromomethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Carbon tetrachloride	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Chlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Chlorodibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Chloroethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
2-Chloroethyl vinyl ether	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Chloroform	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Chloromethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,2-Dibromoethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
2-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
4-Chlorotoluene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Dibromomethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,2-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,3-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,4-Dichlorobenzene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Dichlorodifluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,1-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,2-Dichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,1-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
cis-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
trans-1,2-Dichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,3-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
2,2-Dichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,1-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
cis-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
trans-1,3-Dichloropropene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Ethylbenzene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Methyl ethyl ketone	ND	ug/L		20		SW8260B	04/20/10 14:55 / jrj
Methyl tert-butyl ether (MTBE)	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Methylene chloride	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Styrene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Tetrachloroethene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Toluene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,1,1-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,1,2-Trichloroethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)
Lab ID: B10041312-011
Client Sample ID: Trip Blank #4 Lot #033010, B-TS 0246

Report Date: 04/22/10
Collection Date: 04/13/10 14:00
DateReceived: 04/15/10
Matrix: Trip Blank

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Trichloroethene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Trichlorofluoromethane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
1,2,3-Trichloropropane	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Vinyl chloride	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
m+p-Xylenes	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
o-Xylene	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Xylenes, Total	ND	ug/L		1.0		SW8260B	04/20/10 14:55 / jrj
Surr: Dibromofluoromethane	98.0	%REC		77-126		SW8260B	04/20/10 14:55 / jrj
Surr: 1,2-Dichloroethane-d4	93.0	%REC		70-130		SW8260B	04/20/10 14:55 / jrj
Surr: Toluene-d8	104	%REC		79-122		SW8260B	04/20/10 14:55 / jrj
Surr: p-Bromofluorobenzene	106	%REC		76-127		SW8260B	04/20/10 14:55 / jrj

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R146356
Sample ID: blk042010	Method Blank				Run: 5971A.I_100420A				04/20/10 11:14
Benzene	ND	ug/L	1.0						
Bromobenzene	ND	ug/L	1.0						
Bromochloromethane	ND	ug/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromoform	ND	ug/L	1.0						
Bromomethane	ND	ug/L	1.0						
Carbon tetrachloride	ND	ug/L	1.0						
Chlorobenzene	ND	ug/L	1.0						
Chlorodibromomethane	ND	ug/L	1.0						
Chloroethane	ND	ug/L	1.0						
Chloroform	ND	ug/L	1.0						
Chloromethane	ND	ug/L	1.0						
2-Chloroethyl vinyl ether	ND	ug/L	1.0						
1,2-Dibromoethane	ND	ug/L	1.0						
2-Chlorotoluene	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	1.0						
1,2-Dichlorobenzene	ND	ug/L	1.0						
4-Chlorotoluene	ND	ug/L	1.0						
1,3-Dichlorobenzene	ND	ug/L	1.0						
1,4-Dichlorobenzene	ND	ug/L	1.0						
Dichlorodifluoromethane	ND	ug/L	1.0						
1,1-Dichloroethane	ND	ug/L	1.0						
1,2-Dichloroethane	ND	ug/L	1.0						
1,1-Dichloroethene	ND	ug/L	1.0						
cis-1,2-Dichloroethene	ND	ug/L	1.0						
trans-1,2-Dichloroethene	ND	ug/L	1.0						
1,2-Dichloropropane	ND	ug/L	1.0						
1,3-Dichloropropane	ND	ug/L	1.0						
2,2-Dichloropropane	ND	ug/L	1.0						
1,1-Dichloropropene	ND	ug/L	1.0						
cis-1,3-Dichloropropene	ND	ug/L	1.0						
trans-1,3-Dichloropropene	ND	ug/L	1.0						
Ethylbenzene	ND	ug/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Methyl ethyl ketone	ND	ug/L	20						
Methylene chloride	ND	ug/L	1.0						
Styrene	ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0						
Tetrachloroethene	ND	ug/L	1.0						
Toluene	ND	ug/L	1.0						
1,1,1-Trichloroethane	ND	ug/L	1.0						
1,1,2-Trichloroethane	ND	ug/L	1.0						

Qualifiers:

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ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R146356
Sample ID: blk042010	Method Blank				Run: 5971A.I_100420A				04/20/10 11:14
Trichloroethene	ND	ug/L	1.0						
Trichlorofluoromethane	ND	ug/L	1.0						
1,2,3-Trichloropropane	ND	ug/L	1.0						
Vinyl chloride	ND	ug/L	1.0						
m+p-Xylenes	ND	ug/L	1.0						
o-Xylene	ND	ug/L	1.0						
Xylenes, Total	ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4			1.0	101	70	130			
Surr: Dibromofluoromethane			1.0	101	77	126			
Surr: p-Bromofluorobenzene			1.0	107	76	127			
Surr: Toluene-d8			1.0	102	79	122			
Sample ID: lcs042010	Laboratory Control Sample				Run: 5971A.I_100420A				04/20/10 10:02
Benzene	5.20	ug/L	1.0	104	71	133			
Bromobenzene	5.08	ug/L	1.0	102	78	133			
Bromochloromethane	5.24	ug/L	1.0	105	68	131			
Bromodichloromethane	5.16	ug/L	1.0	103	67	138			
Bromoform	4.48	ug/L	1.0	90	64	136			
Bromomethane	6.60	ug/L	1.0	132	60	138			
Carbon tetrachloride	5.00	ug/L	1.0	100	61	144			
Chlorobenzene	5.12	ug/L	1.0	102	78	136			
Chlorodibromomethane	5.04	ug/L	1.0	101	72	136			
Chloroethane	6.16	ug/L	1.0	123	64	136			
Chloroform	5.20	ug/L	1.0	104	69	133			
Chloromethane	5.76	ug/L	1.0	115	63	149			
2-Chloroethyl vinyl ether	5.84	ug/L	1.0	117	64	132			
1,2-Dibromoethane	5.12	ug/L	1.0	102	75	131			
2-Chlorotoluene	5.56	ug/L	1.0	111	74	135			
Dibromomethane	5.28	ug/L	1.0	106	72	133			
1,2-Dichlorobenzene	5.20	ug/L	1.0	104	78	129			
4-Chlorotoluene	5.52	ug/L	1.0	110	79	135			
1,3-Dichlorobenzene	5.20	ug/L	1.0	104	79	132			
1,4-Dichlorobenzene	5.28	ug/L	1.0	106	78	131			
Dichlorodifluoromethane	6.92	ug/L	1.0	138	55	141			
1,1-Dichloroethane	4.84	ug/L	1.0	97	72	130			
1,2-Dichloroethane	5.20	ug/L	1.0	104	57	146			
1,1-Dichloroethene	5.20	ug/L	1.0	104	66	142			
cis-1,2-Dichloroethene	5.00	ug/L	1.0	100	74	133			
trans-1,2-Dichloroethene	4.92	ug/L	1.0	98	76	138			
1,2-Dichloropropane	5.00	ug/L	1.0	100	72	135			
1,3-Dichloropropane	5.20	ug/L	1.0	104	75	134			
2,2-Dichloropropane	5.28	ug/L	1.0	106	42	167			
1,1-Dichloropropene	5.32	ug/L	1.0	106	72	140			

Qualifiers:

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ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R146356
Sample ID: lcs042010	Laboratory Control Sample				Run: 5971A.I_100420A				04/20/10 10:02
cis-1,3-Dichloropropene	5.20	ug/L	1.0	104	75	132			
trans-1,3-Dichloropropene	5.80	ug/L	1.0	116	77	145			
Ethylbenzene	5.20	ug/L	1.0	104	78	131			
Methyl tert-butyl ether (MTBE)	4.88	ug/L	1.0	98	58	151			
Methyl ethyl ketone	50.0	ug/L	20	100	55	145			
Methylene chloride	5.00	ug/L	1.0	100	73	126			
Styrene	5.28	ug/L	1.0	106	76	134			
1,1,1,2-Tetrachloroethane	5.24	ug/L	1.0	105	75	135			
1,1,2,2-Tetrachloroethane	5.04	ug/L	1.0	101	72	132			
Tetrachloroethene	5.36	ug/L	1.0	107	78	137			
Toluene	5.32	ug/L	1.0	106	78	134			
1,1,1-Trichloroethane	5.04	ug/L	1.0	101	64	141			
1,1,2-Trichloroethane	4.96	ug/L	1.0	99	72	133			
Trichloroethene	5.04	ug/L	1.0	101	75	138			
Trichlorofluoromethane	6.16	ug/L	1.0	123	58	139			
1,2,3-Trichloropropane	4.32	ug/L	1.0	86	67	133			
Vinyl chloride	5.64	ug/L	1.0	113	66	140			
m+p-Xylenes	10.8	ug/L	1.0	108	78	133			
o-Xylene	5.04	ug/L	1.0	101	79	136			
Surr: 1,2-Dichloroethane-d4			1.0	103	70	130			
Surr: Dibromofluoromethane			1.0	101	77	126			
Surr: p-Bromofluorobenzene			1.0	104	76	127			
Surr: Toluene-d8			1.0	106	79	122			
Sample ID: b10041311-002cms	Sample Matrix Spike				Run: 5971A.I_100420A				04/20/10 21:18
Benzene	16.3	ug/L	2.0	88	71	133			
Bromobenzene	8.96	ug/L	2.0	90	78	133			
Bromochloromethane	9.04	ug/L	2.0	90	68	131			
Bromodichloromethane	12.6	ug/L	2.0	126	67	138			
Bromoform	7.58	ug/L	2.0	76	64	136			
Bromomethane	7.90	ug/L	2.0	79	60	138			
Carbon tetrachloride	7.66	ug/L	2.0	77	61	144			
Chlorobenzene	9.04	ug/L	2.0	90	78	136			
Chlorodibromomethane	8.96	ug/L	2.0	90	72	136			
Chloroethane	11.9	ug/L	2.0	119	64	136			
Chloroform	31.4	ug/L	2.0	314	69	133			S
Chloromethane	10.4	ug/L	2.0	104	63	149			
2-Chloroethyl vinyl ether	9.92	ug/L	2.0	99	64	132			
1,2-Dibromoethane	8.96	ug/L	2.0	90	75	131			
2-Chlorotoluene	10.2	ug/L	2.0	102	74	135			
Dibromomethane	9.36	ug/L	2.0	94	72	133			
1,2-Dichlorobenzene	8.80	ug/L	2.0	88	78	129			
4-Chlorotoluene	9.04	ug/L	2.0	90	79	135			

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Batch: R146356	
Sample ID: b10041311-002cms	Sample Matrix Spike				Run: 5971A.I_100420A			04/20/10 21:18	
1,3-Dichlorobenzene	8.48	ug/L	2.0	85	79	132			
1,4-Dichlorobenzene	8.80	ug/L	2.0	88	78	131			
Dichlorodifluoromethane	12.5	ug/L	2.0	125	55	141			
1,1-Dichloroethane	8.24	ug/L	2.0	82	72	130			
1,2-Dichloroethane	8.32	ug/L	2.0	83	57	146			
1,1-Dichloroethene	7.62	ug/L	2.0	76	66	142			
cis-1,2-Dichloroethene	8.80	ug/L	2.0	88	74	133			
trans-1,2-Dichloroethene	8.16	ug/L	2.0	82	76	138			
1,2-Dichloropropane	8.80	ug/L	2.0	88	72	135			
1,3-Dichloropropane	9.36	ug/L	2.0	94	75	134			
2,2-Dichloropropane	7.57	ug/L	2.0	76	42	167			
1,1-Dichloropropene	8.56	ug/L	2.0	86	72	140			
cis-1,3-Dichloropropene	8.80	ug/L	2.0	88	75	132			
trans-1,3-Dichloropropene	9.04	ug/L	2.0	90	77	145			
Ethylbenzene	31.8	ug/L	2.0	90	78	131			
Methyl tert-butyl ether (MTBE)	9.20	ug/L	2.0	92	58	151			
Methyl ethyl ketone	92.8	ug/L	40	93	55	145			
Methylene chloride	8.32	ug/L	2.0	83	73	126			
Styrene	8.88	ug/L	2.0	89	76	134			
1,1,1,2-Tetrachloroethane	8.48	ug/L	2.0	85	75	135			
1,1,2,2-Tetrachloroethane	8.48	ug/L	2.0	85	72	132			
Tetrachloroethene	8.64	ug/L	2.0	86	78	137			
Toluene	9.52	ug/L	2.0	95	78	134			
1,1,1-Trichloroethane	7.94	ug/L	2.0	79	64	141			
1,1,2-Trichloroethane	11.7	ug/L	2.0	117	72	133			
Trichloroethene	8.88	ug/L	2.0	89	75	138			
Trichlorofluoromethane	10.9	ug/L	2.0	109	58	139			
1,2,3-Trichloropropane	10.7	ug/L	2.0	107	67	133			
Vinyl chloride	10.3	ug/L	2.0	103	66	140			
m+p-Xylenes	50.6	ug/L	2.0	90	78	133			
o-Xylene	7.97	ug/L	2.0	80	79	136			
Surr: 1,2-Dichloroethane-d4			2.0	93	70	130			
Surr: Dibromofluoromethane			2.0	99	77	126			
Surr: p-Bromofluorobenzene			2.0	95	76	127			
Surr: Toluene-d8			2.0	114	79	122			
Sample ID: b10041311-002cmsd	Sample Matrix Spike Duplicate				Run: 5971A.I_100420A			04/20/10 21:56	
Benzene	18.1	ug/L	2.0	106	71	133	10	20	
Bromobenzene	10.8	ug/L	2.0	108	78	133	19	20	
Bromochloromethane	10.6	ug/L	2.0	106	68	131	16	20	
Bromodichloromethane	14.4	ug/L	2.0	144	67	138	14	20	S
Bromoform	9.44	ug/L	2.0	94	64	136	22	20	R
Bromomethane	6.92	ug/L	2.0	69	60	138	13	20	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
R - RPD exceeds advisory limit.
S - Spike recovery outside of advisory limits.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Batch: R146356	
Sample ID: b10041311-002cmsd	Sample Matrix Spike Duplicate				Run: 5971A.I_100420A			04/20/10 21:56	
Carbon tetrachloride	9.44	ug/L	2.0	94	61	144	21	20	R
Chlorobenzene	11.0	ug/L	2.0	110	78	136	20	20	
Chlorodibromomethane	10.8	ug/L	2.0	108	72	136	19	20	
Chloroethane	9.68	ug/L	2.0	97	64	136	21	20	R
Chloroform	31.9	ug/L	2.0	319	69	133	1.5	20	S
Chloromethane	9.28	ug/L	2.0	93	63	149	11	20	
2-Chloroethyl vinyl ether	10.1	ug/L	2.0	101	64	132	1.6	20	
1,2-Dibromoethane	11.0	ug/L	2.0	110	75	131	21	20	R
2-Chlorotoluene	12.3	ug/L	2.0	123	74	135	18	20	
Dibromomethane	11.6	ug/L	2.0	116	72	133	21	20	R
1,2-Dichlorobenzene	11.0	ug/L	2.0	110	78	129	23	20	R
4-Chlorotoluene	11.1	ug/L	2.0	111	79	135	21	20	R
1,3-Dichlorobenzene	10.6	ug/L	2.0	106	79	132	22	20	R
1,4-Dichlorobenzene	11.0	ug/L	2.0	110	78	131	22	20	R
Dichlorodifluoromethane	9.76	ug/L	2.0	98	55	141	24	20	R
1,1-Dichloroethane	10.2	ug/L	2.0	102	72	130	21	20	R
1,2-Dichloroethane	10.3	ug/L	2.0	103	57	146	21	20	R
1,1-Dichloroethene	9.68	ug/L	2.0	97	66	142	24	20	R
cis-1,2-Dichloroethene	10.7	ug/L	2.0	107	74	133	20	20	
trans-1,2-Dichloroethene	10.1	ug/L	2.0	101	76	138	21	20	R
1,2-Dichloropropane	11.2	ug/L	2.0	112	72	135	24	20	R
1,3-Dichloropropane	11.7	ug/L	2.0	117	75	134	22	20	R
2,2-Dichloropropane	8.96	ug/L	2.0	90	42	167	17	20	
1,1-Dichloropropene	10.5	ug/L	2.0	105	72	140	20	20	R
cis-1,3-Dichloropropene	11.0	ug/L	2.0	110	75	132	22	20	R
trans-1,3-Dichloropropene	11.4	ug/L	2.0	114	77	145	23	20	R
Ethylbenzene	33.8	ug/L	2.0	111	78	131	6.3	20	
Methyl tert-butyl ether (MTBE)	9.36	ug/L	2.0	94	58	151	1.7	20	
Methyl ethyl ketone	100	ug/L	40	100	55	145	7.5	20	
Methylene chloride	10.2	ug/L	2.0	102	73	126	21	20	R
Styrene	11.0	ug/L	2.0	110	76	134	21	20	R
1,1,1,2-Tetrachloroethane	10.7	ug/L	2.0	107	75	135	23	20	R
1,1,2,2-Tetrachloroethane	11.0	ug/L	2.0	110	72	132	26	20	R
Tetrachloroethene	10.9	ug/L	2.0	109	78	137	23	20	R
Toluene	11.8	ug/L	2.0	118	78	134	22	20	R
1,1,1-Trichloroethane	9.84	ug/L	2.0	98	64	141	21	20	R
1,1,2-Trichloroethane	13.0	ug/L	2.0	130	72	133	11	20	
Trichloroethene	11.3	ug/L	2.0	113	75	138	24	20	R
Trichlorofluoromethane	8.64	ug/L	2.0	86	58	139	23	20	R
1,2,3-Trichloropropane	9.76	ug/L	2.0	98	67	133	9.4	20	
Vinyl chloride	8.32	ug/L	2.0	83	66	140	21	20	R
m+p-Xylenes	55.1	ug/L	2.0	113	78	133	8.6	20	
o-Xylene	10.0	ug/L	2.0	100	79	136	23	20	R

Qualifiers:

RL - Analyte reporting limit.
R - RPD exceeds advisory limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R146356
Sample ID: b10041311-002cmsd	Sample Matrix Spike Duplicate				Run: 5971A.I_100420A				04/20/10 21:56
Surr: 1,2-Dichloroethane-d4			2.0	96	70	130			
Surr: Dibromofluoromethane			2.0	99	77	126			
Surr: p-Bromofluorobenzene			2.0	100	76	127			
Surr: Toluene-d8			2.0	116	79	122			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R146439
Sample ID: blk042110	Method Blank				Run: 5971A.I_100421A				04/21/10 11:27
Benzene	ND	ug/L	1.0						
Bromobenzene	ND	ug/L	1.0						
Bromochloromethane	ND	ug/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromoform	ND	ug/L	1.0						
Bromomethane	ND	ug/L	1.0						
Carbon tetrachloride	ND	ug/L	1.0						
Chlorobenzene	ND	ug/L	1.0						
Chlorodibromomethane	ND	ug/L	1.0						
Chloroethane	ND	ug/L	1.0						
Chloroform	ND	ug/L	1.0						
Chloromethane	ND	ug/L	1.0						
2-Chloroethyl vinyl ether	ND	ug/L	1.0						
1,2-Dibromoethane	ND	ug/L	1.0						
2-Chlorotoluene	ND	ug/L	1.0						
Dibromomethane	ND	ug/L	1.0						
1,2-Dichlorobenzene	ND	ug/L	1.0						
4-Chlorotoluene	ND	ug/L	1.0						
1,3-Dichlorobenzene	ND	ug/L	1.0						
1,4-Dichlorobenzene	ND	ug/L	1.0						
Dichlorodifluoromethane	ND	ug/L	1.0						
1,1-Dichloroethane	ND	ug/L	1.0						
1,2-Dichloroethane	ND	ug/L	1.0						
1,1-Dichloroethene	ND	ug/L	1.0						
cis-1,2-Dichloroethene	ND	ug/L	1.0						
trans-1,2-Dichloroethene	ND	ug/L	1.0						
1,2-Dichloropropane	ND	ug/L	1.0						
1,3-Dichloropropane	ND	ug/L	1.0						
2,2-Dichloropropane	ND	ug/L	1.0						
1,1-Dichloropropene	ND	ug/L	1.0						
cis-1,3-Dichloropropene	ND	ug/L	1.0						
trans-1,3-Dichloropropene	ND	ug/L	1.0						
Ethylbenzene	ND	ug/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	ug/L	1.0						
Methyl ethyl ketone	ND	ug/L	20						
Methylene chloride	ND	ug/L	1.0						
Styrene	ND	ug/L	1.0						
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0						
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0						
Tetrachloroethene	ND	ug/L	1.0						
Toluene	ND	ug/L	1.0						
1,1,1-Trichloroethane	ND	ug/L	1.0						
1,1,2-Trichloroethane	ND	ug/L	1.0						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R146439
Sample ID: blk042110	Method Blank				Run: 5971A.I_100421A				04/21/10 11:27
Trichloroethene	ND	ug/L	1.0						
Trichlorofluoromethane	ND	ug/L	1.0						
1,2,3-Trichloropropane	ND	ug/L	1.0						
Vinyl chloride	ND	ug/L	1.0						
m+p-Xylenes	ND	ug/L	1.0						
o-Xylene	ND	ug/L	1.0						
Xylenes, Total	ND	ug/L	1.0						
Surr: 1,2-Dichloroethane-d4			1.0	91	70	130			
Surr: Dibromofluoromethane			1.0	97	77	126			
Surr: p-Bromofluorobenzene			1.0	104	76	127			
Surr: Toluene-d8			1.0	103	79	122			
Sample ID: lcs042110	Laboratory Control Sample				Run: 5971A.I_100421A				04/21/10 10:09
Benzene	4.96	ug/L	1.0	99	71	133			
Bromobenzene	4.88	ug/L	1.0	98	78	133			
Bromochloromethane	5.04	ug/L	1.0	101	68	131			
Bromodichloromethane	4.92	ug/L	1.0	98	67	138			
Bromoform	4.40	ug/L	1.0	88	64	136			
Bromomethane	5.60	ug/L	1.0	112	60	138			
Carbon tetrachloride	4.48	ug/L	1.0	90	61	144			
Chlorobenzene	5.28	ug/L	1.0	106	78	136			
Chlorodibromomethane	4.96	ug/L	1.0	99	72	136			
Chloroethane	6.08	ug/L	1.0	122	64	136			
Chloroform	4.72	ug/L	1.0	94	69	133			
Chloromethane	5.52	ug/L	1.0	110	63	149			
2-Chloroethyl vinyl ether	6.04	ug/L	1.0	121	64	132			
1,2-Dibromoethane	5.08	ug/L	1.0	102	75	131			
2-Chlorotoluene	5.16	ug/L	1.0	103	74	135			
Dibromomethane	5.00	ug/L	1.0	100	72	133			
1,2-Dichlorobenzene	5.04	ug/L	1.0	101	78	129			
4-Chlorotoluene	5.12	ug/L	1.0	102	79	135			
1,3-Dichlorobenzene	5.04	ug/L	1.0	101	79	132			
1,4-Dichlorobenzene	5.08	ug/L	1.0	102	78	131			
Dichlorodifluoromethane	6.00	ug/L	1.0	120	55	141			
1,1-Dichloroethane	4.72	ug/L	1.0	94	72	130			
1,2-Dichloroethane	4.60	ug/L	1.0	92	57	146			
1,1-Dichloroethene	4.56	ug/L	1.0	91	66	142			
cis-1,2-Dichloroethene	4.88	ug/L	1.0	98	74	133			
trans-1,2-Dichloroethene	4.40	ug/L	1.0	88	76	138			
1,2-Dichloropropane	4.92	ug/L	1.0	98	72	135			
1,3-Dichloropropane	5.36	ug/L	1.0	107	75	134			
2,2-Dichloropropane	4.80	ug/L	1.0	96	42	167			
1,1-Dichloropropene	4.92	ug/L	1.0	98	72	140			

Qualifiers:

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R146439
Sample ID: lcs042110	Laboratory Control Sample				Run: 5971A.I_100421A				04/21/10 10:09
cis-1,3-Dichloropropene	5.16	ug/L	1.0	103	75	132			
trans-1,3-Dichloropropene	5.16	ug/L	1.0	103	77	145			
Ethylbenzene	5.12	ug/L	1.0	102	78	131			
Methyl tert-butyl ether (MTBE)	5.20	ug/L	1.0	104	58	151			
Methyl ethyl ketone	55.6	ug/L	20	111	55	145			
Methylene chloride	4.52	ug/L	1.0	90	73	126			
Styrene	5.20	ug/L	1.0	104	76	134			
1,1,1,2-Tetrachloroethane	4.96	ug/L	1.0	99	75	135			
1,1,2,2-Tetrachloroethane	5.12	ug/L	1.0	102	72	132			
Tetrachloroethene	5.04	ug/L	1.0	101	78	137			
Toluene	5.20	ug/L	1.0	104	78	134			
1,1,1-Trichloroethane	4.64	ug/L	1.0	93	64	141			
1,1,2-Trichloroethane	5.16	ug/L	1.0	103	72	133			
Trichloroethene	5.16	ug/L	1.0	103	75	138			
Trichlorofluoromethane	5.48	ug/L	1.0	110	58	139			
1,2,3-Trichloropropane	4.56	ug/L	1.0	91	67	133			
Vinyl chloride	5.28	ug/L	1.0	106	66	140			
m+p-Xylenes	10.5	ug/L	1.0	105	78	133			
o-Xylene	4.96	ug/L	1.0	99	79	136			
Surr: 1,2-Dichloroethane-d4			1.0	96	70	130			
Surr: Dibromofluoromethane			1.0	98	77	126			
Surr: p-Bromofluorobenzene			1.0	104	76	127			
Surr: Toluene-d8			1.0	112	79	122			
Sample ID: b10041795-001dms	Sample Matrix Spike				Run: 5971A.I_100421A				04/21/10 21:17
Benzene	5.48	ug/L	1.0	110	71	133			
Bromobenzene	5.04	ug/L	1.0	101	78	133			
Bromochloromethane	5.44	ug/L	1.0	109	68	131			
Bromodichloromethane	5.20	ug/L	1.0	104	67	138			
Bromoform	4.28	ug/L	1.0	86	64	136			
Bromomethane	4.24	ug/L	1.0	85	60	138			
Carbon tetrachloride	4.44	ug/L	1.0	89	61	144			
Chlorobenzene	5.56	ug/L	1.0	111	78	136			
Chlorodibromomethane	4.88	ug/L	1.0	98	72	136			
Chloroethane	4.72	ug/L	1.0	94	64	136			
Chloroform	5.04	ug/L	1.0	101	69	133			
Chloromethane	4.60	ug/L	1.0	92	63	149			
2-Chloroethyl vinyl ether	ND	ug/L	1.0		64	132			S
1,2-Dibromoethane	5.52	ug/L	1.0	110	75	131			
2-Chlorotoluene	5.48	ug/L	1.0	110	74	135			
Dibromomethane	5.32	ug/L	1.0	106	72	133			
1,2-Dichlorobenzene	5.28	ug/L	1.0	106	78	129			
4-Chlorotoluene	5.32	ug/L	1.0	106	79	135			

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R146439
Sample ID: b10041795-001dms	Sample Matrix Spike				Run: 5971A.I_100421A				04/21/10 21:17
1,3-Dichlorobenzene	5.28	ug/L	1.0	106	79	132			
1,4-Dichlorobenzene	5.40	ug/L	1.0	108	78	131			
Dichlorodifluoromethane	4.60	ug/L	1.0	92	55	141			
1,1-Dichloroethane	5.00	ug/L	1.0	100	72	130			
1,2-Dichloroethane	4.84	ug/L	1.0	97	57	146			
1,1-Dichloroethene	4.96	ug/L	1.0	99	66	142			
cis-1,2-Dichloroethene	5.36	ug/L	1.0	107	74	133			
trans-1,2-Dichloroethene	5.20	ug/L	1.0	104	76	138			
1,2-Dichloropropane	5.60	ug/L	1.0	112	72	135			
1,3-Dichloropropane	5.76	ug/L	1.0	115	75	134			
2,2-Dichloropropane	4.32	ug/L	1.0	86	42	167			
1,1-Dichloropropene	5.12	ug/L	1.0	102	72	140			
cis-1,3-Dichloropropene	5.36	ug/L	1.0	107	75	132			
trans-1,3-Dichloropropene	5.04	ug/L	1.0	101	77	145			
Ethylbenzene	5.40	ug/L	1.0	108	78	131			
Methyl tert-butyl ether (MTBE)	4.68	ug/L	1.0	94	58	151			
Methyl ethyl ketone	57.6	ug/L	20	115	55	145			
Methylene chloride	5.00	ug/L	1.0	100	73	126			
Styrene	4.80	ug/L	1.0	96	76	134			
1,1,1,2-Tetrachloroethane	5.24	ug/L	1.0	105	75	135			
1,1,2,2-Tetrachloroethane	5.48	ug/L	1.0	110	72	132			
Tetrachloroethene	5.12	ug/L	1.0	102	78	137			
Toluene	5.92	ug/L	1.0	118	78	134			
1,1,1-Trichloroethane	4.64	ug/L	1.0	93	64	141			
1,1,2-Trichloroethane	5.52	ug/L	1.0	110	72	133			
Trichloroethene	5.48	ug/L	1.0	110	75	138			
Trichlorofluoromethane	4.52	ug/L	1.0	90	58	139			
1,2,3-Trichloropropane	5.20	ug/L	1.0	104	67	133			
Vinyl chloride	4.60	ug/L	1.0	92	66	140			
m+p-Xylenes	10.7	ug/L	1.0	107	78	133			
o-Xylene	5.20	ug/L	1.0	104	79	136			
Surr: 1,2-Dichloroethane-d4			1.0	92	70	130			
Surr: Dibromofluoromethane			1.0	96	77	126			
Surr: p-Bromofluorobenzene			1.0	104	76	127			
Surr: Toluene-d8			1.0	109	79	122			
Sample ID: b10041795-001dmsd	Sample Matrix Spike Duplicate				Run: 5971A.I_100421A				04/21/10 21:58
Benzene	5.64	ug/L	1.0	113	71	133	2.9	20	
Bromobenzene	5.28	ug/L	1.0	106	78	133	4.7	20	
Bromochloromethane	5.76	ug/L	1.0	115	68	131	5.7	20	
Bromodichloromethane	5.20	ug/L	1.0	104	67	138	0	20	
Bromoform	4.28	ug/L	1.0	86	64	136	0	20	
Bromomethane	4.36	ug/L	1.0	87	60	138	2.8	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B								Batch: R146439	
Sample ID: b10041795-001dmsd	Sample Matrix Spike Duplicate				Run: 5971A.I_100421A			04/21/10 21:58	
Carbon tetrachloride	4.64	ug/L	1.0	93	61	144	4.4	20	
Chlorobenzene	5.56	ug/L	1.0	111	78	136	0	20	
Chlorodibromomethane	4.88	ug/L	1.0	98	72	136	0	20	
Chloroethane	4.96	ug/L	1.0	99	64	136	5	20	
Chloroform	5.08	ug/L	1.0	102	69	133	0.8	20	
Chloromethane	4.56	ug/L	1.0	91	63	149	0.9	20	
2-Chloroethyl vinyl ether	ND	ug/L	1.0		64	132		20	S
1,2-Dibromoethane	5.56	ug/L	1.0	111	75	131	0.7	20	
2-Chlorotoluene	5.80	ug/L	1.0	116	74	135	5.7	20	
Dibromomethane	5.56	ug/L	1.0	111	72	133	4.4	20	
1,2-Dichlorobenzene	5.48	ug/L	1.0	110	78	129	3.7	20	
4-Chlorotoluene	5.56	ug/L	1.0	111	79	135	4.4	20	
1,3-Dichlorobenzene	5.60	ug/L	1.0	112	79	132	5.9	20	
1,4-Dichlorobenzene	5.60	ug/L	1.0	112	78	131	3.6	20	
Dichlorodifluoromethane	4.64	ug/L	1.0	93	55	141	0.9	20	
1,1-Dichloroethane	5.12	ug/L	1.0	102	72	130	2.4	20	
1,2-Dichloroethane	4.68	ug/L	1.0	94	57	146	3.4	20	
1,1-Dichloroethene	5.04	ug/L	1.0	101	66	142	1.6	20	
cis-1,2-Dichloroethene	5.60	ug/L	1.0	112	74	133	4.4	20	
trans-1,2-Dichloroethene	5.44	ug/L	1.0	109	76	138	4.5	20	
1,2-Dichloropropane	5.72	ug/L	1.0	114	72	135	2.1	20	
1,3-Dichloropropane	6.00	ug/L	1.0	120	75	134	4.1	20	
2,2-Dichloropropane	4.36	ug/L	1.0	87	42	167	0.9	20	
1,1-Dichloropropene	5.36	ug/L	1.0	107	72	140	4.6	20	
cis-1,3-Dichloropropene	5.44	ug/L	1.0	109	75	132	1.5	20	
trans-1,3-Dichloropropene	5.00	ug/L	1.0	100	77	145	0.8	20	
Ethylbenzene	5.44	ug/L	1.0	109	78	131	0.7	20	
Methyl tert-butyl ether (MTBE)	4.80	ug/L	1.0	96	58	151	2.5	20	
Methyl ethyl ketone	51.6	ug/L	20	103	55	145	11	20	
Methylene chloride	5.20	ug/L	1.0	104	73	126	3.9	20	
Styrene	4.64	ug/L	1.0	93	76	134	3.4	20	
1,1,1,2-Tetrachloroethane	5.36	ug/L	1.0	107	75	135	2.3	20	
1,1,2,2-Tetrachloroethane	5.76	ug/L	1.0	115	72	132	5	20	
Tetrachloroethene	5.36	ug/L	1.0	107	78	137	4.6	20	
Toluene	6.16	ug/L	1.0	123	78	134	4	20	
1,1,1-Trichloroethane	4.96	ug/L	1.0	99	64	141	6.7	20	
1,1,2-Trichloroethane	5.56	ug/L	1.0	111	72	133	0.7	20	
Trichloroethene	5.60	ug/L	1.0	112	75	138	2.2	20	
Trichlorofluoromethane	4.52	ug/L	1.0	90	58	139	0	20	
1,2,3-Trichloropropane	5.36	ug/L	1.0	107	67	133	3	20	
Vinyl chloride	4.44	ug/L	1.0	89	66	140	3.5	20	
m+p-Xylenes	11.2	ug/L	1.0	112	78	133	4.4	20	
o-Xylene	5.20	ug/L	1.0	104	79	136	0	20	

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260B									Batch: R146439
Sample ID: b10041795-001dmsd	Sample Matrix Spike Duplicate				Run: 5971A.I_100421A				04/21/10 21:58
Surr: 1,2-Dichloroethane-d4			1.0	94	70	130			
Surr: Dibromofluoromethane			1.0	98	77	126			
Surr: p-Bromofluorobenzene			1.0	102	76	127			
Surr: Toluene-d8			1.0	113	79	122			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015M as G									Analytical Run: R146370
Sample ID: CCV_0419VAR05r-W	Continuing Calibration Verification Standard								04/19/10 10:47
2-Methylpentane	26.2	ug/L	1.0	87	75	125			
Benzene	9.85	ug/L	1.0	99	75	125			
2,2,4-Trimethylpentane	25.2	ug/L	1.0	84	75	125			
Toluene	29.1	ug/L	1.0	97	75	125			
Ethylbenzene	9.69	ug/L	1.0	97	75	125			
m+p-Xylenes	39.1	ug/L	1.0	98	75	125			
n-Heptane	9.34	ug/L	1.0	93	75	125			
o-Xylene	20.2	ug/L	1.0	101	75	125			
1,2,4-Trimethylbenzene	18.3	ug/L	1.0	91	75	125			
Total GRO	187	ug/L		93	75	125			
Surr: Trifluorotoluene			1.0	92	75	125			
Method: SW8015M as G									Batch: R146370
Sample ID: LCS_0419VAR06r	Laboratory Control Sample				Run: VARIAN1_100419A				04/19/10 11:44
Total Purgeable Hydrocarbons	138	ug/L	20	69	50	100			
Surr: Trifluorotoluene			1.0	98	50	150			
Sample ID: MBLK_0419VAR07r	Method Blank				Run: VARIAN1_100419A				04/19/10 12:18
Gasoline Range Organics (GRO)	ND	ug/L	20						
GRO as Gasoline	ND	ug/L	20						
Total Purgeable Hydrocarbons	ND	ug/L	20						
Surr: Trifluorotoluene			1.0	98	50	150			
Sample ID: B10041312-002BMS	Sample Matrix Spike				Run: VARIAN1_100419A				04/19/10 16:45
Total Purgeable Hydrocarbons	738	ug/L	20	73	50	100			
Surr: Trifluorotoluene			1.0	112	50	150			
Sample ID: B10041312-002BMSD	Sample Matrix Spike Duplicate				Run: VARIAN1_100419A				04/19/10 17:19
Total Purgeable Hydrocarbons	788	ug/L	20	86	50	100	6.5	20	
Surr: Trifluorotoluene			1.0	118	50	150			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

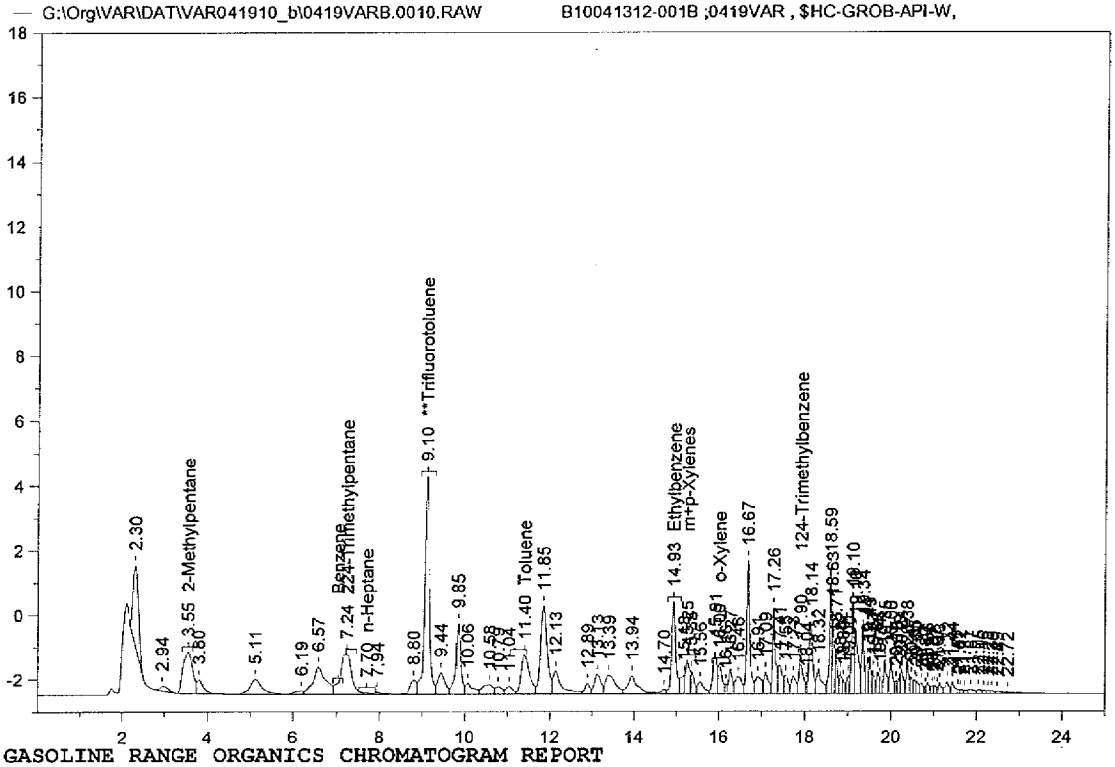
Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015M as G									Analytical Run: R146420
Sample ID: CCV_0420VAR03r-W	Continuing Calibration Verification Standard								04/20/10 10:04
2-Methylpentane	33.7	ug/L	1.0	112	75	125			
Benzene	10.8	ug/L	1.0	108	75	125			
2,2,4-Trimethylpentane	34.0	ug/L	1.0	113	75	125			
Toluene	32.9	ug/L	1.0	110	75	125			
Ethylbenzene	10.9	ug/L	1.0	109	75	125			
m+p-Xylenes	43.5	ug/L	1.0	109	75	125			
n-Heptane	11.7	ug/L	1.0	117	75	125			
o-Xylene	21.0	ug/L	1.0	105	75	125			
1,2,4-Trimethylbenzene	20.7	ug/L	1.0	103	75	125			
Total GRO	219	ug/L		110	75	125			
Surr: Trifluorotoluene			1.0	92	75	125			
Method: SW8015M as G									Batch: R146420
Sample ID: LCS_0420VAR04r	Laboratory Control Sample				Run: VARIAN1_100420A				04/20/10 10:51
Total Purgeable Hydrocarbons	144	ug/L	20	72	50	100			
Surr: Trifluorotoluene			1.0	96	50	150			
Sample ID: MBLK_0420VAR05r	Method Blank				Run: VARIAN1_100420A				04/20/10 11:24
Gasoline Range Organics (GRO)	ND	ug/L	20						
GRO as Gasoline	ND	ug/L	20						
Total Purgeable Hydrocarbons	ND	ug/L	20						
Surr: Trifluorotoluene			1.0	95	50	150			
Sample ID: B10041458-003BMS	Sample Matrix Spike				Run: VARIAN1_100420A				04/20/10 20:24
Total Purgeable Hydrocarbons	276	ug/L	20	69	50	100			
Surr: Trifluorotoluene			1.0	97	50	150			
Sample ID: B10041458-003BMSD	Sample Matrix Spike Duplicate				Run: VARIAN1_100420A				04/20/10 20:58
Total Purgeable Hydrocarbons	292	ug/L	20	73	50	100	5.7	20	
Surr: Trifluorotoluene			1.0	99	50	150			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

TP 14-11 MW1A



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

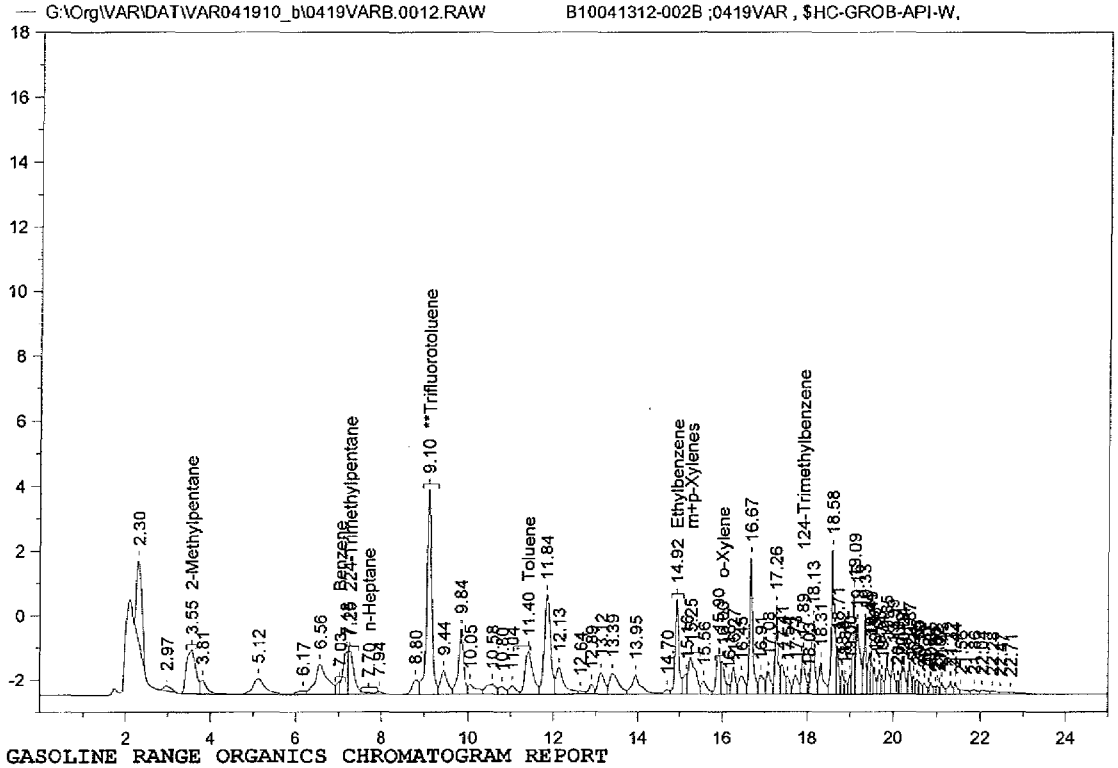
Sample Name: B10041312-001B ;0419VAR , $HC-GROB-API-W,
Raw File: G:\Org\VAR\DAT\VAR041910_b\0419VARB.0010.RAW
Date & Time Acquired: 4/19/2010 2:27:43 PM
Method File: G:\Org\VAR\Methods\0210V13121xB.MET
Calibration File: G:\Org\VAR\Cals\0210VARb.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for all calibrated compounds: 241.6774
Rt range for Gasoline Range Organics: 3.408 to 18.047

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.104	50.	52.996	105.99

GRO Area:328727.9 GRO Amount: 272.0385
TPH Area:494706.9 TPH Amount: 409.3943

TP 14-11 MW1B



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

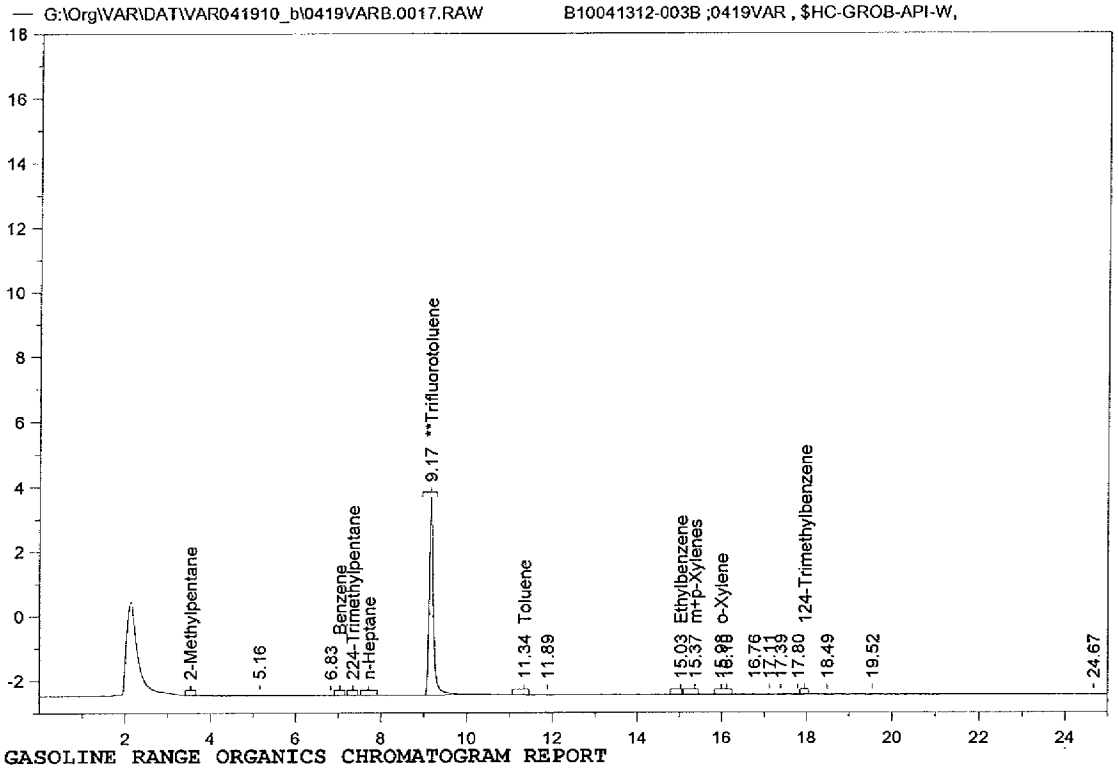
Sample Name: B10041312-002B ;0419VAR , $HC-GROB-API-W,
Raw File: G:\Org\VAR\DAT\VAR041910_b\0419VARB.0012.RAW
Date & Time Acquired: 4/19/2010 3:36:16 PM
Method File: G:\Org\VAR\Methods\0210V13122B.MET
Calibration File: G:\Org\VAR\Cals\0210VARb.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for all calibrated compounds: 241.6774
Rt range for Gasoline Range Organics: 3.408 to 18.047

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	9.102	50.	50.401	100.8	-

GRO Area:355222.8 GRO Amount: 293.9644
TPH Area:536850.9 TPH Amount: 444.2706

TP 14-11 MW2



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

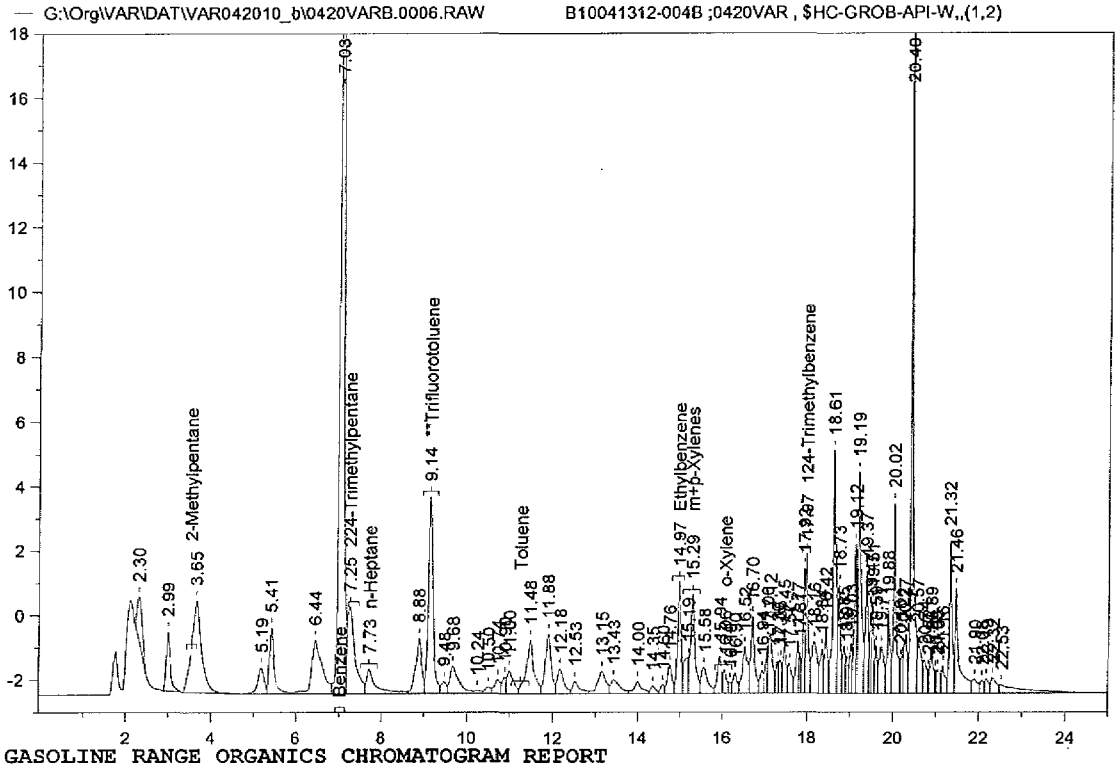
Sample Name: B10041312-003B ;0419VAR , $HC-GROB-API-W,
Raw File: G:\Org\VAR\DAT\VAR041910_b\0419VARB.0017.RAW
Date & Time Acquired: 4/19/2010 6:26:02 PM
Method File: G:\Org\VAR\Methods\0210VARB.MET
Calibration File: G:\Org\VAR\Cals\0210VARb.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for all calibrated compounds: 241.6774
Rt range for Gasoline Range Organics: 3.408 to 18.047

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	9.166	50.	45.288	90.58	-

GRO Area:786.7237 GRO Amount: 0.6510527
TPH Area:860.6862 TPH Amount: 0.7122603

TP 14-11 MW3



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

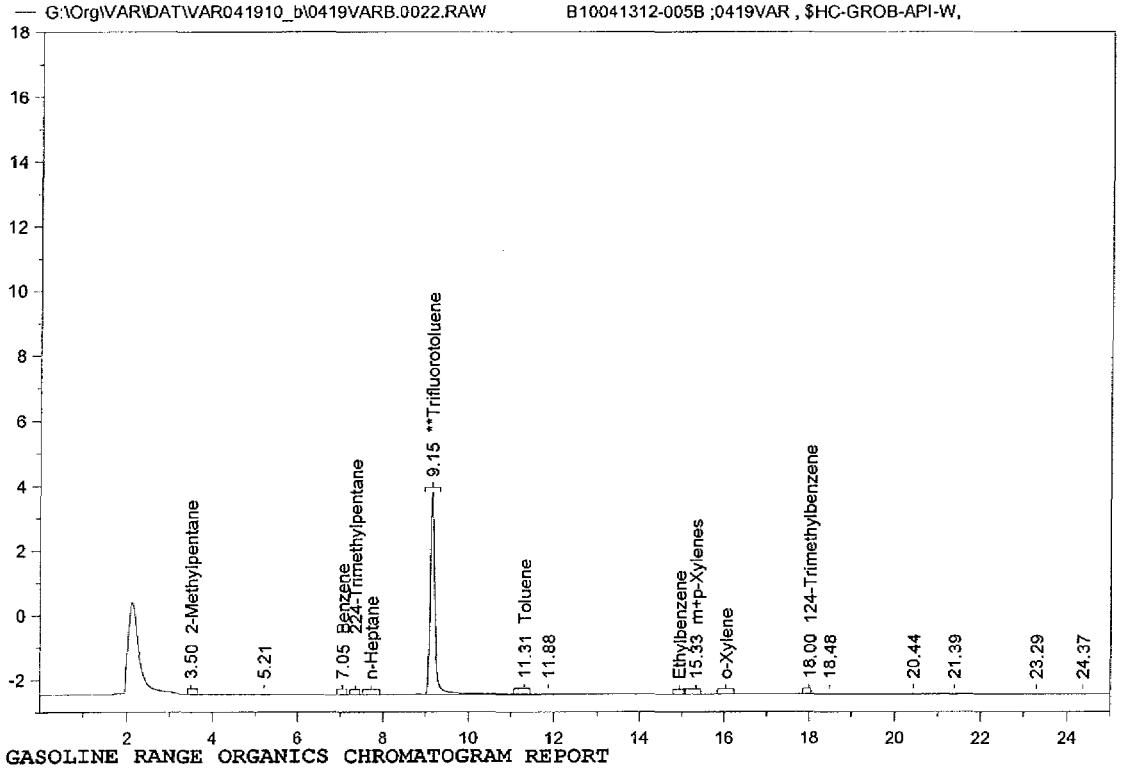
Sample Name: B10041312-004B ;0420VAR , $HC-GROB-API-W,,(1,2)
Raw File: G:\Org\VAR\DAT\VAR042010_b\0420VARB.0006.RAW
Date & Time Acquired: 4/20/2010 11:57:09 AM
Method File: G:\Org\VAR\Methods\0210V13124x2B.MET
Calibration File: G:\Org\VAR\Cals\0210VARb.CAL
Sample Weight: 5 Dilution: 2 S.A.: 2

Mean RF for all calibrated compounds: 241.6774
Rt range for Gasoline Range Organics: 3.408 to 18.047

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.143	100.	92.062	92.06

GRO Area:657333.4 GRO Amount: 1087.952
TPH Area:1123694 TPH Amount: 1859.823

TP 14-11 MW4



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

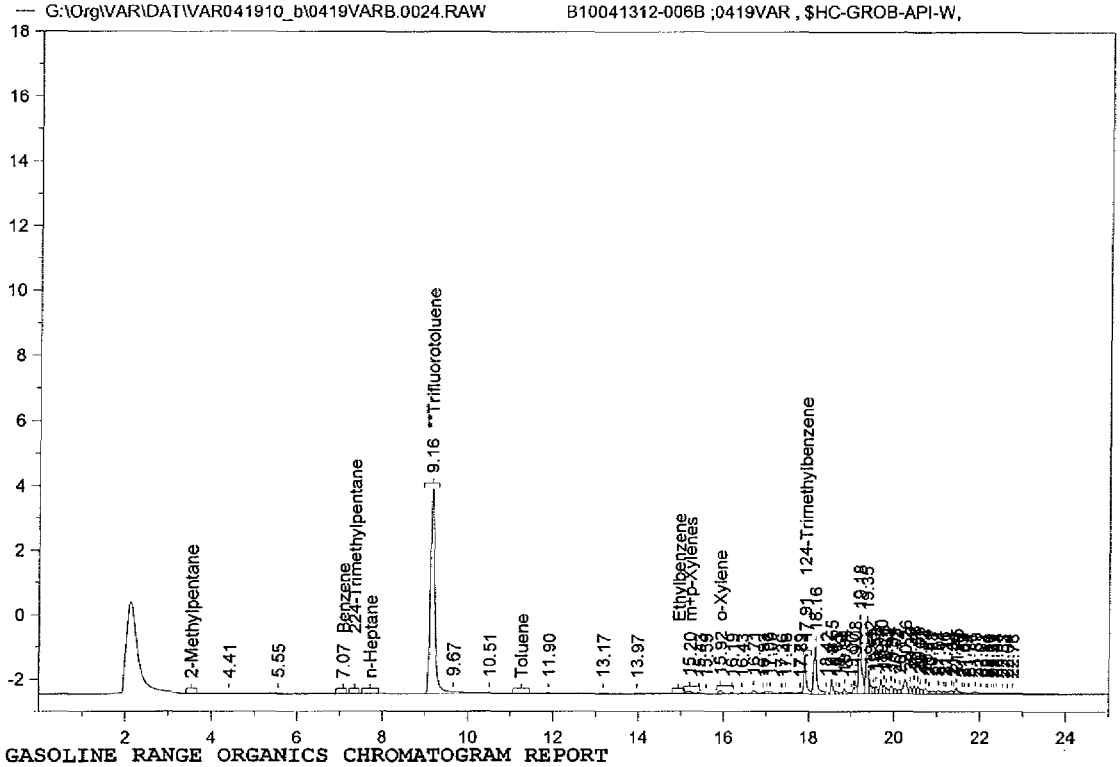
Sample Name: B10041312-005B ;0419VAR , $HC-GROB-API-W,
Raw File: G:\Org\VAR\DAT\VAR041910_b\0419VARB.0022.RAW
Date & Time Acquired: 4/19/2010 9:12:27 PM
Method File: G:\Org\VAR\Methods\0210VARB.MET
Calibration File: G:\Org\VAR\Cals\0210VARb.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for all calibrated compounds: 241.6774
Rt range for Gasoline Range Organics: 3.408 to 18.047

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	9.147	50.	47.038	94.08	-

GRO Area:603.9827 GRO Amount: 0.4998255
TPH Area:815.3663 TPH Amount: 0.6747558

TP 14-11 MW5



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

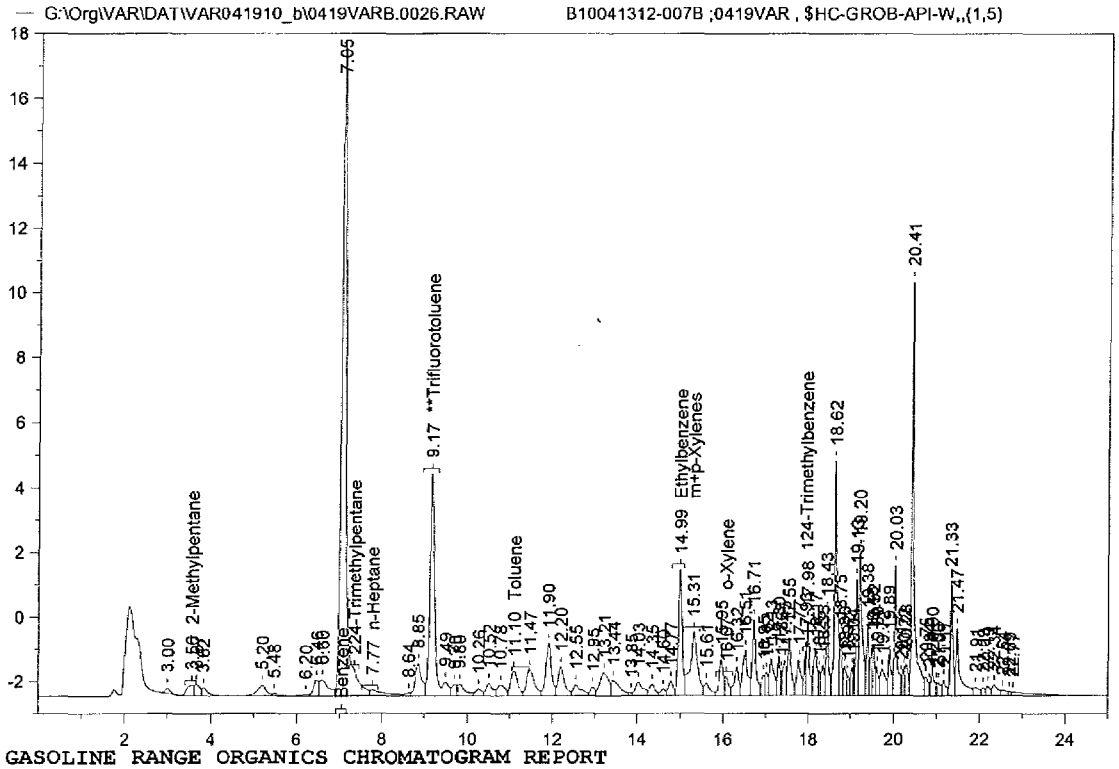
Sample Name: B10041312-006B ;0419VAR , $HC-GROB-API-W,
Raw File: G:\Org\VAR\DAT\VAR041910_b\0419VARB.0024.RAW
Date & Time Acquired: 4/19/2010 10:18:47 PM
Method File: G:\Org\VAR\Methods\0210V13126B.MET
Calibration File: G:\Org\VAR\Cals\0210VARb.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for all calibrated compounds: 241.6774
Rt range for Gasoline Range Organics: 3.408 to 18.047

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
**Trifluorotoluene	9.159	50.	46.796	93.59	-

GRO Area:13966.54 GRO Amount: 11.558
TPH Area:66959.91 TPH Amount: 55.41263

TP 14-11 MW6



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

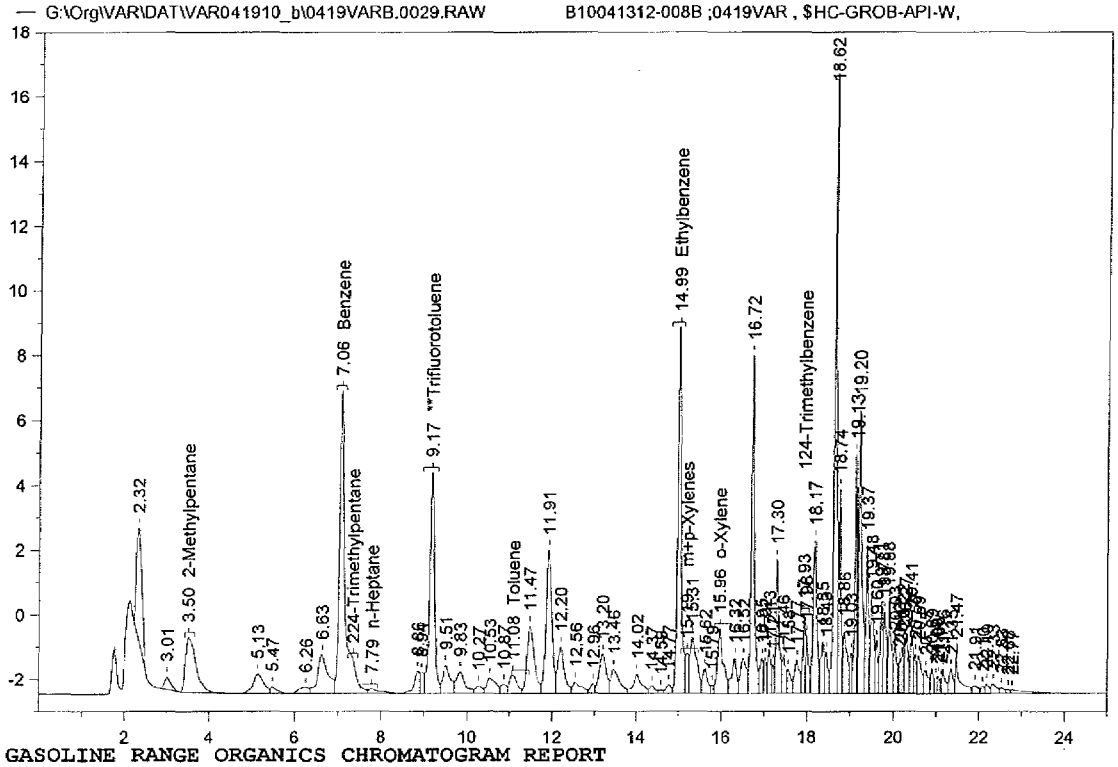
Sample Name: B10041312-007B ;0419VAR , $HC-GROB-API-W,,(1,5)
Raw File: G:\Org\VAR\DAT\VAR041910_b\0419VARB.0026.RAW
Date & Time Acquired: 4/19/2010 11:24:57 PM
Method File: G:\Org\VAR\Methods\0210V13127B.MET
Calibration File: G:\Org\VAR\Cals\0210VARb.CAL
Sample Weight: 5 Dilution: 5 S.A.: 5

Mean RF for all calibrated compounds: 241.6774
Rt range for Gasoline Range Organics: 3.408 to 18.047

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.165	250.	256.438	102.58

GRO Area:459508.6 GRO Amount: 1901.33
TPH Area:749225.3 TPH Amount: 3100.104

TP 14-11 MW7



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

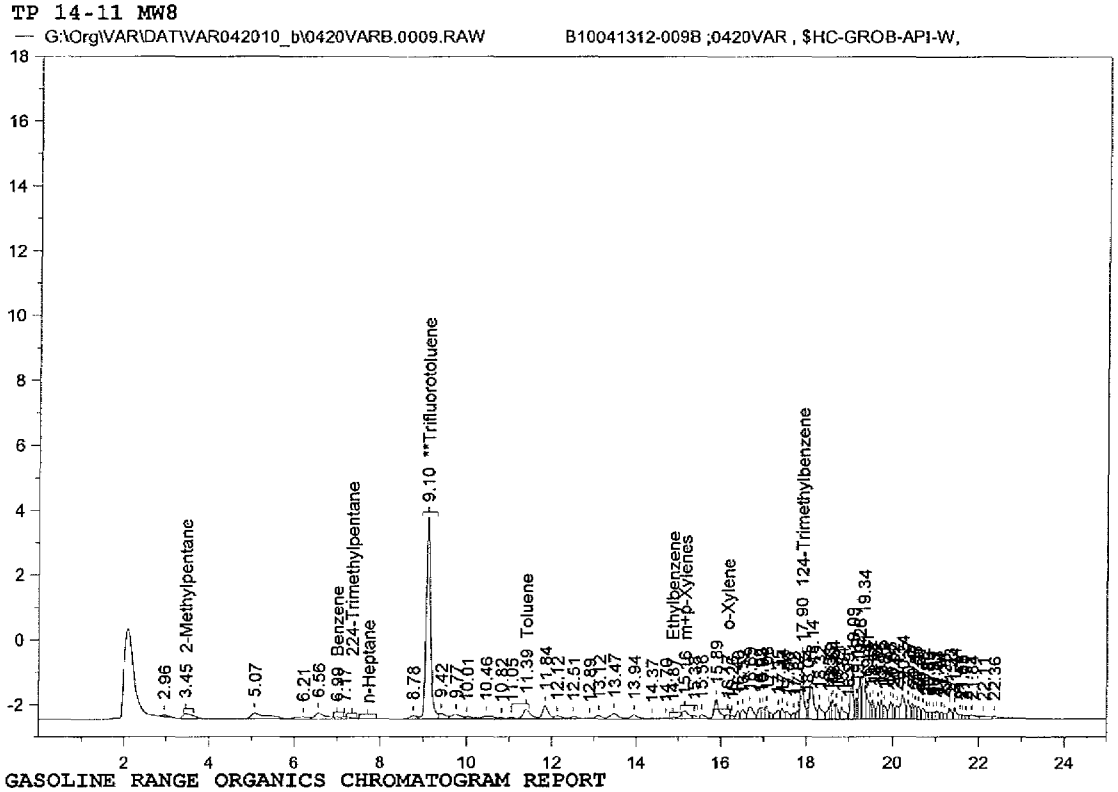
Sample Name: B10041312-008B ;0419VAR , $HC-GROB-API-W,
Raw File: G:\Org\VAR\DAT\VAR041910_b\0419VARB.0029.RAW
Date & Time Acquired: 4/20/2010 1:03:58 AM
Method File: G:\Org\VAR\Methods\0210V13128B.MET
Calibration File: G:\Org\VAR\Cals\0210VARb.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for all calibrated compounds: 241.6774
Rt range for Gasoline Range Organics: 3.408 to 18.047

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.168	50.	52.821	105.64

GRO Area:612748.6 GRO Amount: 507.0797
TPH Area:1056685 TPH Amount: 874.4587

TP 14-11 MW8



GASOLINE RANGE ORGANICS CHROMATOGRAM REPORT

Sample Name: B10041312-009B ;0420VAR , $HC-GROB-API-W,
Raw File: G:\Org\VAR\DAT\VAR042010_b\0420VARB.0009.RAW
Date & Time Acquired: 4/20/2010 1:36:49 PM
Method File: G:\Org\VAR\Methods\0210V13129B.MET
Calibration File: G:\Org\VAR\Cals\0210VARb.CAL
Sample Weight: 5 Dilution: 1 S.A.: 1

Mean RF for all calibrated compounds: 241.6774
Rt range for Gasoline Range Organics: 3.408 to 18.047

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC
**Trifluorotoluene	9.104	50.	46.006	92.01

GRO Area:82630.14 GRO Amount: 68.38052
TPH Area:182289.3 TPH Amount: 150.8533

ENERGY LABORATORIES, INC. * 1120 S 27th St * PO Box 30916 * Billings, MT 59107-0916
Toll Free 800.735.4489 * 406.252.6325 * FAX 406.252.6069 * eli@energylab.com

QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015M as D									Batch: 45719
Sample ID: LCS-45719	Laboratory Control Sample				Run: GCFID-FISON-B_100416D				04/18/10 03:56
Diesel Range Organics (DRO)	13.3	mg/L	0.30	89	60	120			
Total Extractable Hydrocarbons	14.0	mg/L	0.30	93	60	120			
Surr: o-Terphenyl			0.0050	84	50	150			
Sample ID: MB-45719	Method Blank				Run: GCFID-FISON-B_100416D				04/18/10 04:42
Diesel Range Organics (DRO)	ND	mg/L	0.30						
Diesel Range Organics as Diesel	ND	mg/L	0.30						
Total Extractable Hydrocarbons	ND	mg/L	0.30						
Surr: o-Terphenyl			0.0050	84	50	150			
Sample ID: LCSD-45719	Laboratory Control Sample Duplicate				Run: GCFID-FISON-B_100416D				04/18/10 05:28
Diesel Range Organics (DRO)	13.3	mg/L	0.30	89	60	120	0.5	20	
Total Extractable Hydrocarbons	13.7	mg/L	0.30	91	60	120	2.5	20	
Surr: o-Terphenyl			0.0050	83	50	150			
Sample ID: B10041415-002AMS	Sample Matrix Spike				Run: GCFID-FISON-B_100416D				04/18/10 07:01
Diesel Range Organics (DRO)	13.4	mg/L	0.30	89	60	120			
Total Extractable Hydrocarbons	14.0	mg/L	0.30	93	60	120			
Surr: o-Terphenyl			0.0050	81	50	150			
Sample ID: B10041415-002AMSD	Sample Matrix Spike Duplicate				Run: GCFID-FISON-B_100416D				04/18/10 07:47
Diesel Range Organics (DRO)	12.9	mg/L	0.30	86	60	120	4	20	
Total Extractable Hydrocarbons	13.5	mg/L	0.30	90	60	120	3.9	20	
Surr: o-Terphenyl			0.0050	79	50	150			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

ENERGY LABORATORIES, INC. * 1120 S 27th St * PO Box 30916 * Billings, MT 59107-0916
Toll Free 800.735.4489 * 406.252.6325 * FAX 406.252.6069 * eli@energylab.com

QA/QC Summary Report

Client: Encana Oil and Gas USA Inc
Project: Tribal Pavillion 14-11 (VRP)

Report Date: 04/23/10
Work Order: B10041312

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8015M as D									Analytical Run: R146349
Sample ID: CCV_0416FIS62r-W	Continuing Calibration Verification Standard								04/18/10 11:38
n-Decane	0.215	mg/L	0.0050	108	75	125			
n-Dodecane	0.203	mg/L	0.0050	101	75	125			
n-Tetradecane	0.192	mg/L	0.0050	96	75	125			
n-Hexadecane	0.193	mg/L	0.0050	96	75	125			
n-Octadecane	0.195	mg/L	0.0050	98	75	125			
n-Eicosane	0.197	mg/L	0.0050	99	75	125			
n-Docosane	0.203	mg/L	0.0050	101	75	125			
n-Tetracosane	0.207	mg/L	0.0050	104	75	125			
n-Hexacosane	0.206	mg/L	0.0050	103	75	125			
n-Octacosane	0.205	mg/L	0.0050	103	75	125			
Total DRO	2.02	mg/L		92	75	125			
Surr: o-Terphenyl			0.0050	95	75	125			
Sample ID: CCV_0416FIS77r-W	Continuing Calibration Verification Standard								04/18/10 23:15
n-Decane	0.222	mg/L	0.0050	111	75	125			
n-Dodecane	0.208	mg/L	0.0050	104	75	125			
n-Tetradecane	0.200	mg/L	0.0050	100	75	125			
n-Hexadecane	0.198	mg/L	0.0050	99	75	125			
n-Octadecane	0.200	mg/L	0.0050	100	75	125			
n-Eicosane	0.201	mg/L	0.0050	101	75	125			
n-Docosane	0.207	mg/L	0.0050	104	75	125			
n-Tetracosane	0.211	mg/L	0.0050	106	75	125			
n-Hexacosane	0.210	mg/L	0.0050	105	75	125			
n-Octacosane	0.208	mg/L	0.0050	104	75	125			
Total DRO	2.07	mg/L		94	75	125			
Surr: o-Terphenyl			0.0050	98	75	125			
Method: SW8015M as D									Analytical Run: R146455
Sample ID: CCV_0419HP331r DRO A	Continuing Calibration Verification Standard								04/20/10 21:13
n-Decane	0.219	mg/L	0.0050	109	75	125			
n-Dodecane	0.217	mg/L	0.0050	109	75	125			
n-Tetradecane	0.215	mg/L	0.0050	108	75	125			
n-Hexadecane	0.215	mg/L	0.0050	107	75	125			
n-Octadecane	0.216	mg/L	0.0050	108	75	125			
n-Eicosane	0.215	mg/L	0.0050	108	75	125			
n-Docosane	0.215	mg/L	0.0050	108	75	125			
n-Tetracosane	0.216	mg/L	0.0050	108	75	125			
n-Hexacosane	0.217	mg/L	0.0050	109	75	125			
n-Octacosane	0.212	mg/L	0.0050	106	75	125			
Total DRO	2.16	mg/L		98	75	125			
Surr: o-Terphenyl			0.0050	108	75	125			

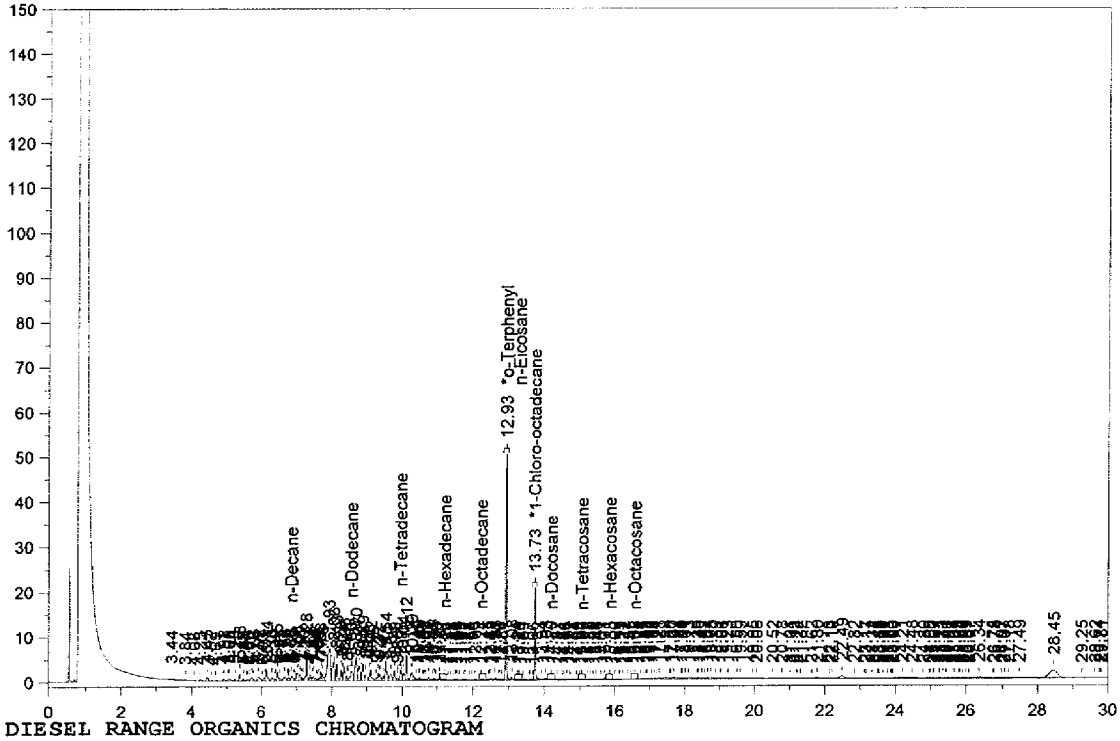
Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

TP 14-11 MW1A Batch ID: 45719

G:\Org\FIS\DAT\FIS041610_b\0416FIS.0068.RAW B10041312-001A ;0416FIS , $HC-DRO-API-W,



DIESEL RANGE ORGANICS CHROMATOGRAM

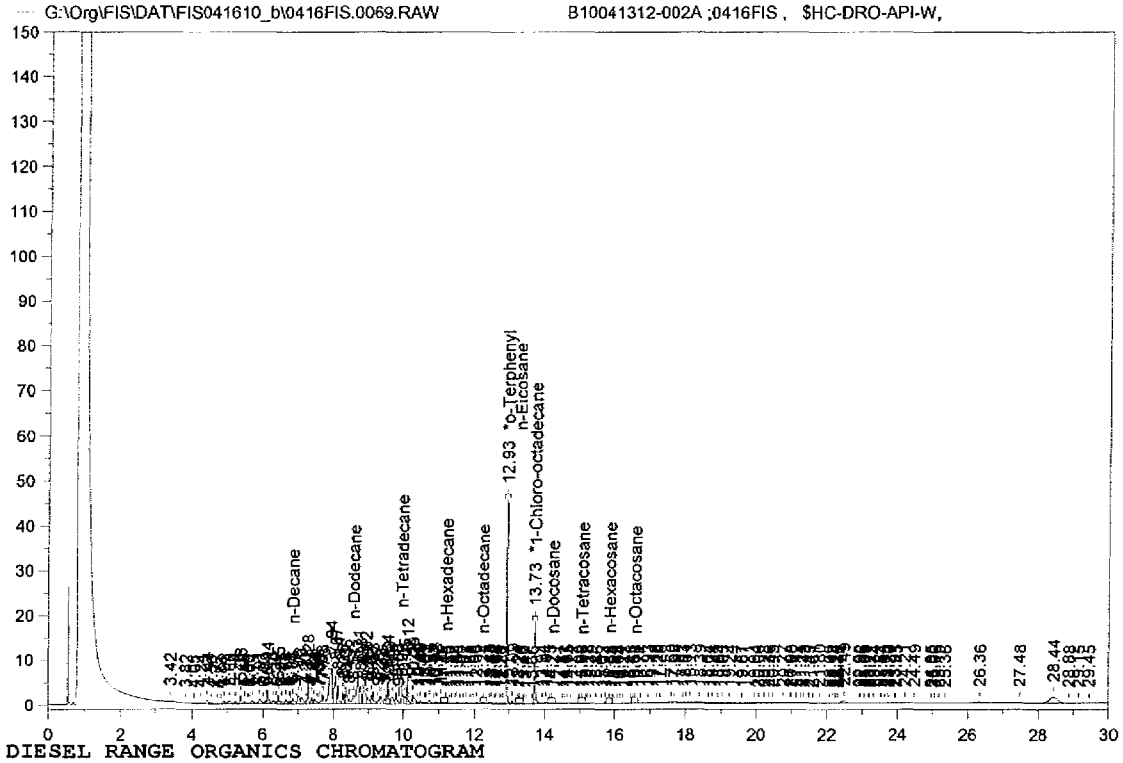
Sample Name: B10041312-001A ;0416FIS , $HC-DRO-API-W,
Raw File: G:\Org\FIS\DAT\FIS041610_b\0416FIS.0068.RAW
Date & Time Acquired: 4/18/2010 4:16:24 PM
Method File: g:\org\Fis\Methods\D3000TM%.met
Calibration File: G:\Org\FIS\Cals\DR090901TM.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for Total Extractable Hydrocarbons: 572.5435
Rt range for Diesel Range Organics (C10 to C28): 6.77 to 16.67

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.927	.2	.127	63.66	-
*1-Chloro-octadecane	13.727	.2	.081	40.64	-

DRO Area:338597.2 DRO AMOUNT: 0.5913912
TEH Area:519024.2 TEH AMOUNT: 0.9065237

TP 14-11 MW1B Batch ID: 45719



DIESEL RANGE ORGANICS CHROMATOGRAM

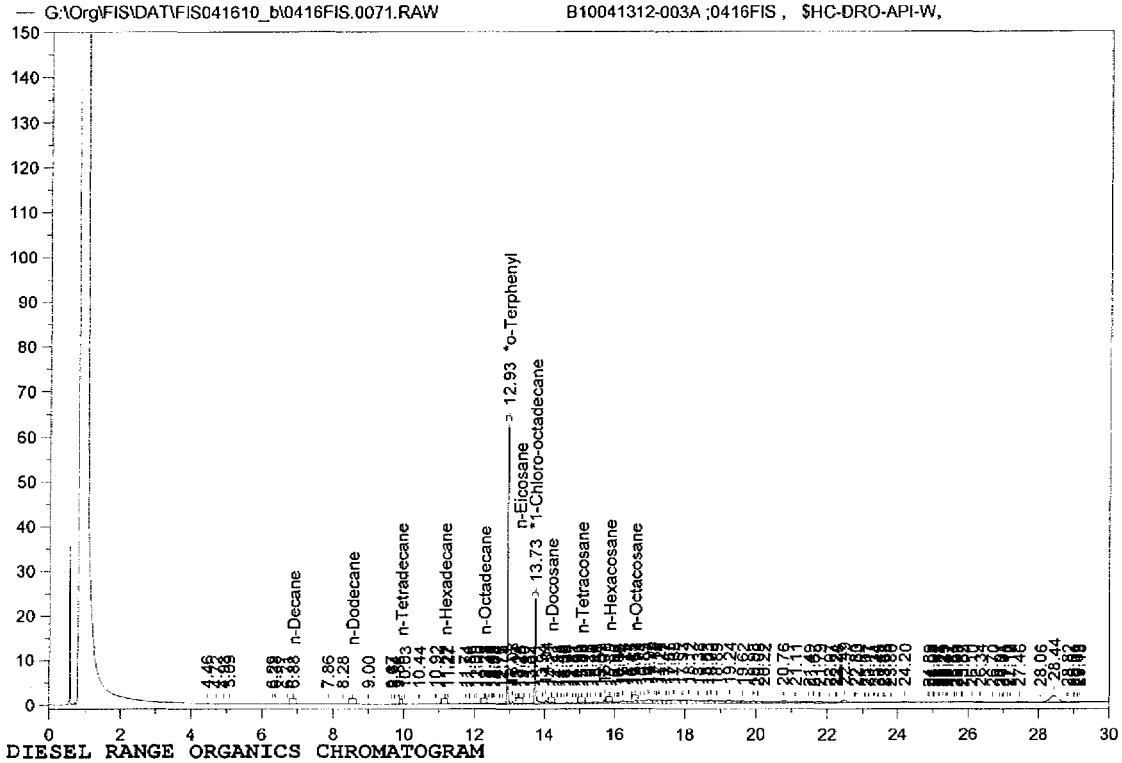
Sample Name: B10041312-002A ;0416FIS , $HC-DRO-API-W,
Raw File: G:\Org\FIS\DAT\FIS041610_b\0416FIS.0069.RAW
Date & Time Acquired: 4/18/2010 5:03:11 PM
Method File: g:\org\Fis\Methods\D3000TM%.met
Calibration File: G:\Org\FIS\Cals\DR090901TM.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for Total Extractable Hydrocarbons: 572.5435
Rt range for Diesel Range Organics (C10 to C28): 6.77 to 16.67

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.93	.2	.115	57.61	-
*1-Chloro-octadecane	13.729	.2	.073	36.75	-

DRO Area:373270.3 DRO AMOUNT: 0.651951
TEH Area:515741.8 TEH AMOUNT: 0.9007906

TP 14-11 MW2 Batch ID: 45719



DIESEL RANGE ORGANICS CHROMATOGRAM

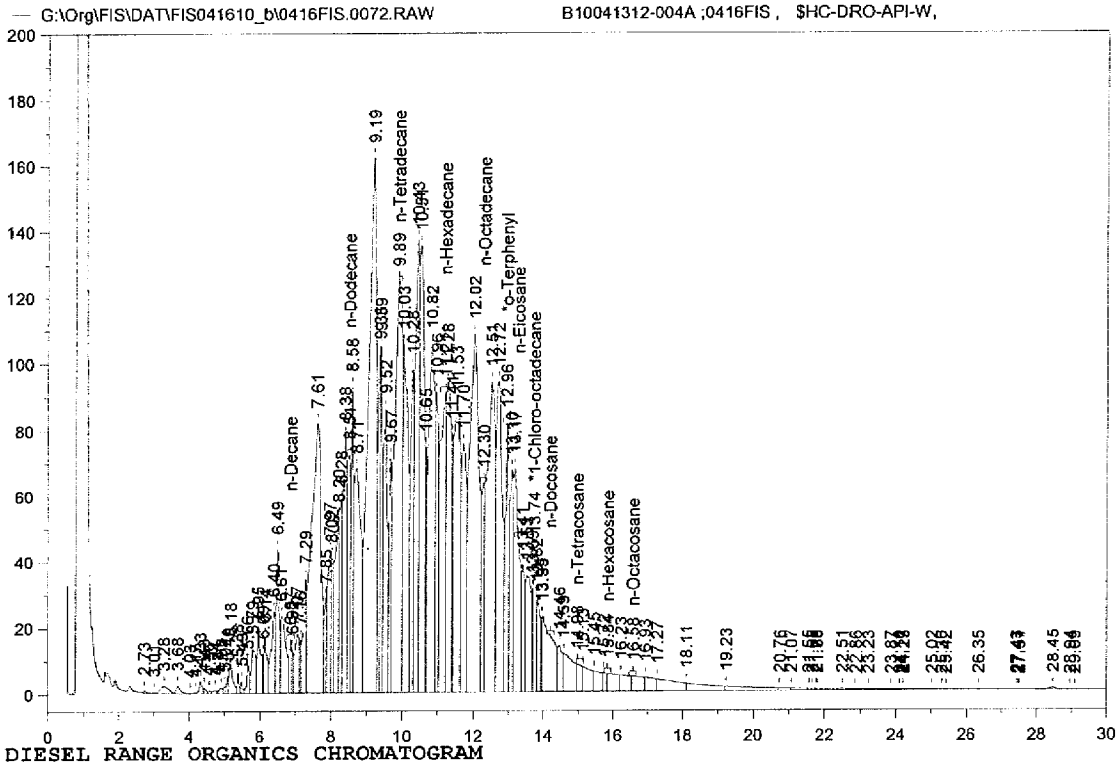
Sample Name: B10041312-003A ;0416FIS , $HC-DRO-API-W,
Raw File: G:\Org\FIS\DAT\FIS041610_b\0416FIS.0071.RAW
Date & Time Acquired: 4/18/2010 6:36:37 PM
Method File: g:\org\Fis\Methods\DR041671TM%.met
Calibration File: G:\Org\FIS\Cals\DR090901TM.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for Total Extractable Hydrocarbons: 572.5435
Rt range for Diesel Range Organics (C10 to C28): 6.77 to 16.67

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.93	.2	.161	80.43	-
*1-Chloro-octadecane	13.729	.2	.101	50.61	-

DRO Area:54056.14 DRO AMOUNT: 9.441405E-02
TEH Area:262278.2 TEH AMOUNT: 0.4580931

TP 14-11 MW3 Batch ID: 45719



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: B10041312-004A ;0416FIS , $HC-DRO-API-W,
Raw File: G:\Org\FIS\DAT\FIS041610_b\0416FIS.0072.RAW
Date & Time Acquired: 4/18/2010 7:23:12 PM
Method File: g:\org\Fis\Methods\DR041672TM%.met
Calibration File: G:\Org\FIS\Cals\DR090901TM.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

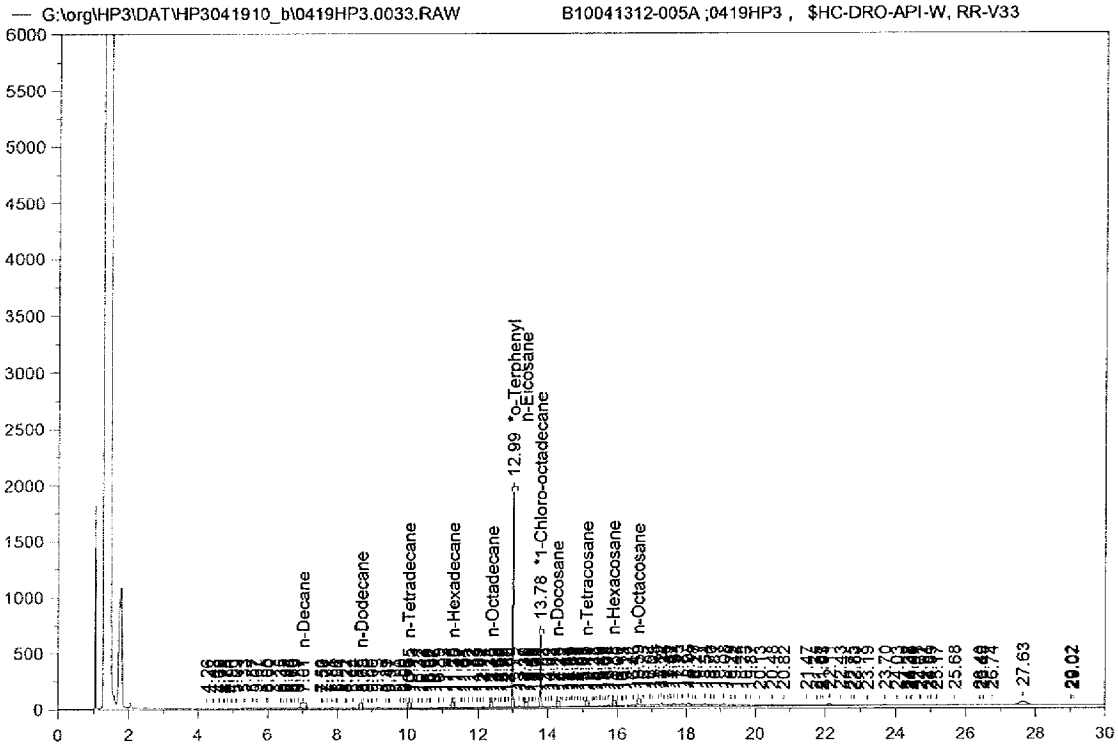
Mean RF for Total Extractable Hydrocarbons: 572.5435
Rt range for Diesel Range Organics (C10 to C28): 6.77 to 16.67

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.955	.2	.733	366.58	-
*1-Chloro-octadecane	13.741	.2	.426	212.87	-

DRO Area:2.990342E+07 DRO AMOUNT: 52.22908
TEH Area:3.172002E+07 TEH AMOUNT: 55.40194

TP 14-11 MW4 Batch ID: 45719

— G:\org\HP3\DAT\HP3041910_b\0419HP3.0033.RAW B10041312-005A ;0419HP3 , $HC-DRO-API-W, RR-V33



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: B10041312-005A ;0419HP3 , $HC-DRO-API-W, RR-V33
Raw File: G:\org\HP3\DAT\HP3041910_b\0419HP3.0033.RAW
Date & Time Acquired: 4/20/2010 11:01:24 PM
Method File: G:\Org\HP3\Methods\DR041933AD%.met
Calibration File: G:\Org\HP3\Cals\DR100112AD.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

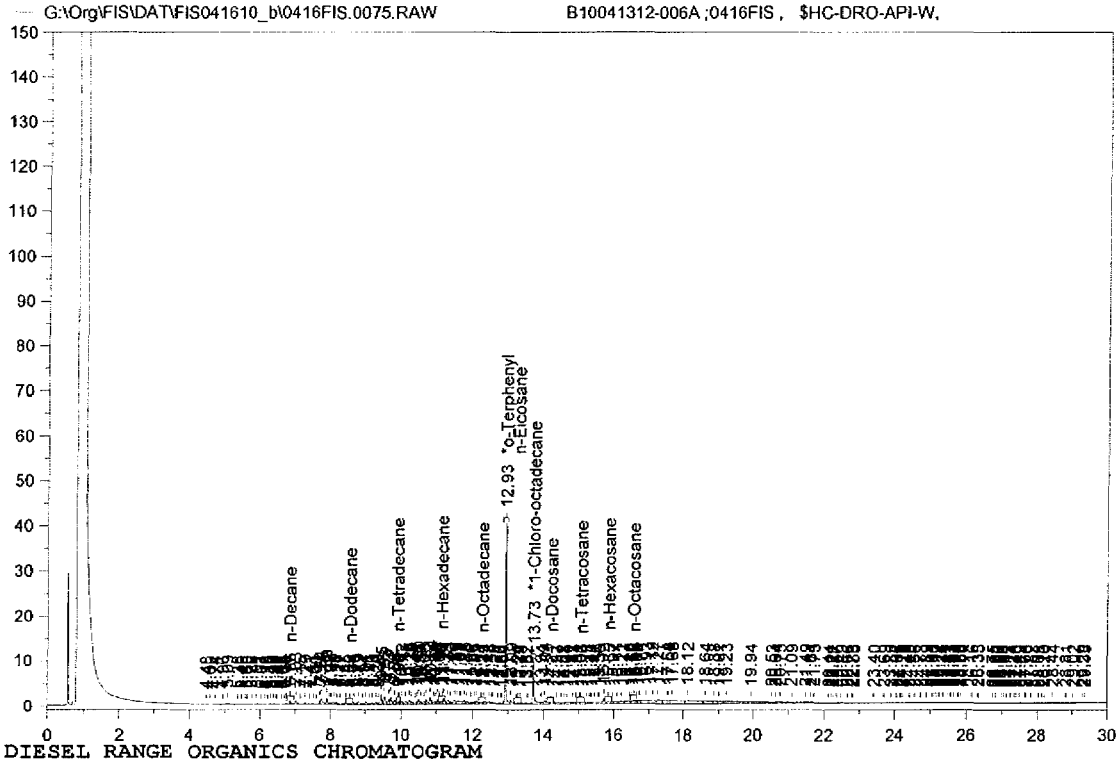
Mean RF for Total Extractable Hydrocarbons: 29437.91
Rt range for Diesel Range Organics (C10 to C28): 6.93 to 16.68

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.985	.2	.1	50.02	-
*1-Chloro-octadecane	13.782	.2	.05	24.87	-

DRO Area:1802122 DRO AMOUNT: 6.121774E-02
TEH Area:8243777 TEH AMOUNT: 0.2800395

TP 14-11 MW5 Batch ID: 45719

G:\Org\FIS\DAT\FIS041610_b\0416FIS.0075.RAW B10041312-006A ;0416FIS , $HC-DRO-API-W,



DIESEL RANGE ORGANICS CHROMATOGRAM

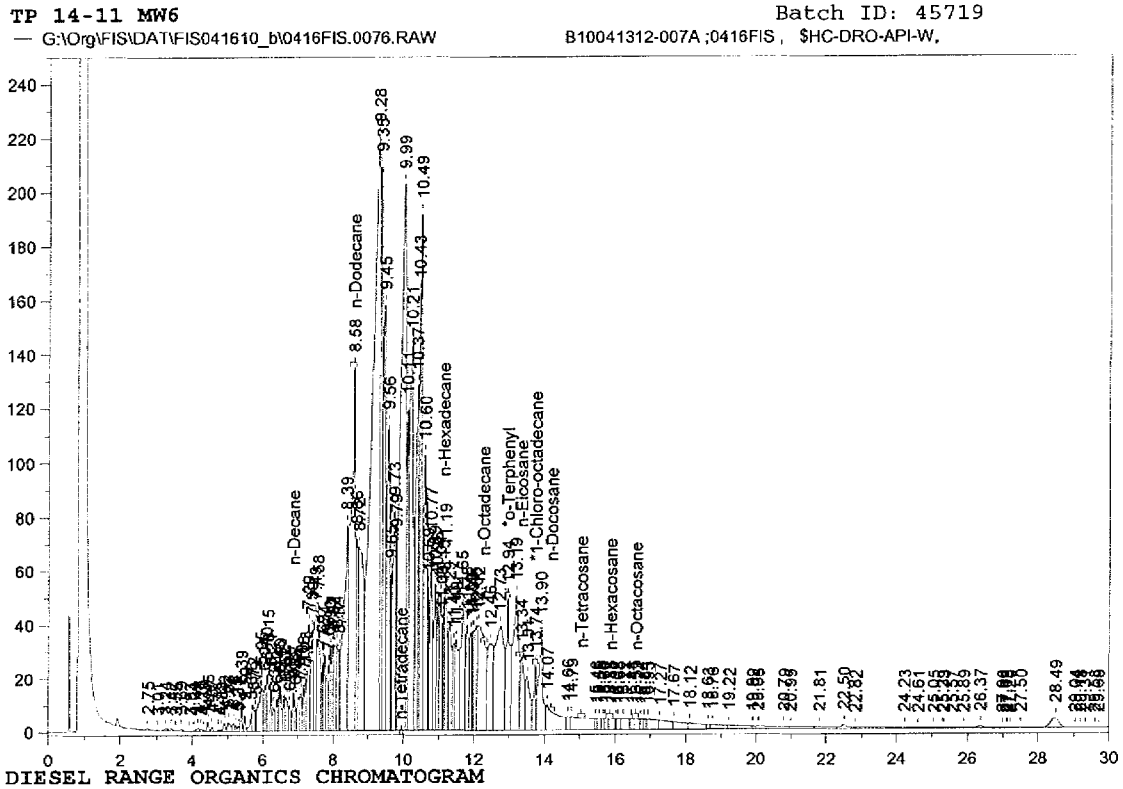
Sample Name: B10041312-006A ;0416FIS , $HC-DRO-API-W,
Raw File: G:\Org\FIS\DAT\FIS041610_b\0416FIS.0075.RAW
Date & Time Acquired: 4/18/2010 9:42:19 PM
Method File: g:\org\Fis\Methods\DR041675TM%.met
Calibration File: G:\Org\FIS\Cals\DR090901TM.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for Total Extractable Hydrocarbons: 572.5435
Rt range for Diesel Range Organics (C10 to C28): 6.77 to 16.67

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.93	.2	.106	53.22	-
*1-Chloro-octadecane	13.729	.2	.05	25.11	-

DRO Area:217069.3 DRO AMOUNT: 0.3791316
TEH Area:421241.5 TEH AMOUNT: 0.7357371

TP 14-11 MW6 Batch ID: 45719



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: B10041312-007A ;0416FIS , $HC-DRO-API-W,
Raw File: G:\Org\FIS\DAT\FIS041610_b\0416FIS.0076.RAW
Date & Time Acquired: 4/18/2010 10:29:00 PM
Method File: g:\org\Fis\Methods\DR041676TM%.met
Calibration File: G:\Org\FIS\Cals\DR090901TM.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

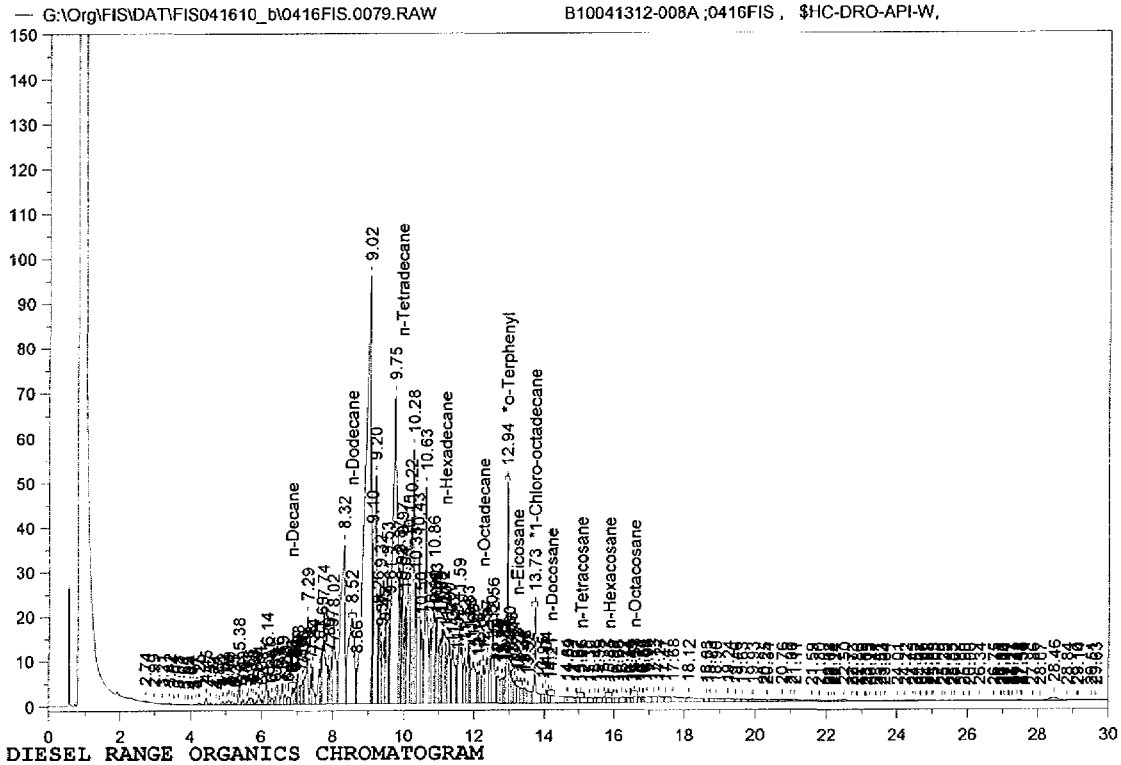
Mean RF for Total Extractable Hydrocarbons: 572.5435
Rt range for Diesel Range Organics (C10 to C28): 6.77 to 16.67

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.944	.2	.535	267.59	-
*1-Chloro-octadecane	13.736	.2	.22	109.83	-

DRO Area:2.447667E+07 DRO AMOUNT: 42.75076
TEH Area:2.617936E+07 TEH AMOUNT: 45.72467

TP 14-11 MW7 Batch ID: 45719

— G:\Org\FIS\DAT\FIS041610_b\0416FIS.0079.RAW B10041312-008A ;0416FIS , $HC-DRO-API-W,



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: B10041312-008A ;0416FIS , $HC-DRO-API-W,
Raw File: G:\Org\FIS\DAT\FIS041610_b\0416FIS.0079.RAW
Date & Time Acquired: 4/19/2010 12:48:59 AM
Method File: g:\org\Fis\Methods\D3000TM%.met
Calibration File: G:\Org\FIS\Cals\DR090901TM.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

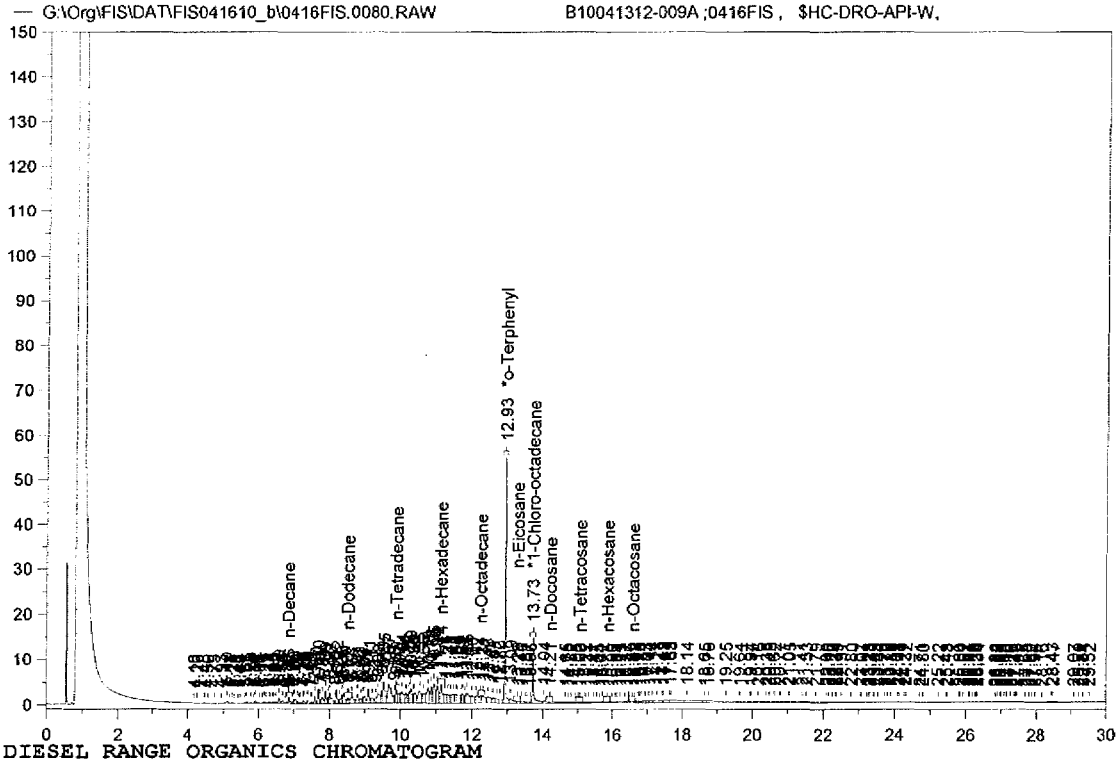
Mean RF for Total Extractable Hydrocarbons: 572.5435
Rt range for Diesel Range Organics (C10 to C28): 6.77 to 16.67

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.935	.2	.15	75.19	-
*1-Chloro-octadecane	13.733	.2	.136	68.14	-

DRO Area:6413844 DRO AMOUNT: 11.20237
TEH Area:6877634 TEH AMOUNT: 12.01242

ENERGY LABORATORIES, INC. • P.O. Box 30916 • 1120 South 27th Street • Billings, MT 59107-0916
800-735-4489 • 406-252-6325 • 406-252-6069 fax • eli@energylab.com

TP 14-11 MW8 Batch ID: 45719



DIESEL RANGE ORGANICS CHROMATOGRAM

Sample Name: B10041312-009A ;0416FIS , $HC-DRO-API-W,
Raw File: G:\Org\FIS\DAT\FIS041610_b\0416FIS.0080.RAW
Date & Time Acquired: 4/19/2010 1:35:14 AM
Method File: g:\org\Fis\Methods\DR041680TM%.met
Calibration File: G:\Org\FIS\Cals\DR090901TM.CAL
Sample Weight: 1000 Dilution: 1 S.A.: 1

Mean RF for Total Extractable Hydrocarbons: 572.5435
Rt range for Diesel Range Organics (C10 to C28): 6.77 to 16.67

SURROGATE COMPOUND	RT	ACTUAL	MEASURED	%REC	
*o-Terphenyl	12.934	.2	.149	74.36	-
*1-Chloro-octadecane	13.733	.2	.072	36.16	-

DRO Area:607824.3 DRO AMOUNT: 1.061621
TEH Area:783723.5 TEH AMOUNT: 1.368845

Chain of Custody and Analytical Request Record

ENERGY LABORATORIES

PLEASE PRINT (Provide as much information as possible.)

Company Name: EnCana Oil & Gas (USA) Inc.	Project Name, PWS, Permit, Etc.: Tribal Pavillion 14-11 (URP)	Sample Origin State: WY	EPA/State Compliance: Yes ☐ No ☐
Report Mail Address: Att: Brandon Kintzler	Contact Name: Mike Larson Phone/Fax: 406-579-9585	Email: MLarson@Kchaney.com	Sampler: (Please Print)
Invoice Address: P.O. Box 1177 Riverton, WY 82501	Invoice Contact & Phone: Brandon Kintzler	Purchase Order:	Quote/Bottle Order:

Special Report/Formats:

☐ DW ☐ EDD/EDT (Electronic Data)
☐ POTW/WWTP Format: _____
☐ State: _____ ☐ LEVEL IV
☐ Other: _____ ☐ NELAC

Number of Containers
Sample Type: A Air W Water S Soils/Solids V Vegetation B Bioassay O Other D DW - Drinking Water

ANALYSIS REQUESTED

SEE ATTACHED

Standard Turnaround (TAT)

R U S H — Contact ELI prior to **RUSH** sample submittal for charges and scheduling – See Instruction Page

Comments: 20% discount Thanks. Please call M. Larson for invoice purchase order info.

Shipped by: Ryan Wisnoski
Cooler ID(s):
Receipt Temp: 5 °C
On Ice: (Y) N
Custody Seal On Bottle Y (N) On Cooler (Y) N
Intact (Y) N
Signature Match (Y) N

	SAMPLE IDENTIFICATION (Name, Location, Interval, etc.)	Collection Date	Collection Time	MATRIX	See bottle Order	SEE ATTACHED	Standard TAT	RUSH	LABORATORY USE ONLY
1	TP 14-11 MW 1A	4-13-10	10:05	SW	✓		X		1004312-001
2	MW 1B	"	10:10	"	"		X		-002
3	MW 2		~~11:30~~ 10:45				X		-003
4	MW 3		14:00				X		-004
5	MW 4		14:30				X		-005
6	MW 5		11:15				X		-006
7	MW 6		15:00				X		-007
8	MW 7		13:20				X		-008
9	MW 8	↓	15:30	↓	↓		X		-009
10	TB 1 T502416 TB 4 T502416	3-30-10 3-30-10							-010 -011

Custody Record MUST be Signed

Relinquished by (print): Michael Larson	Date/Time: 4/13 – 5:00pm	Signature:	Received by (print):	Date/Time: Signature:
Relinquished by (print):	Date/Time:	Signature:	Received by (print):	Date/Time: Signature:
Sample Disposal: Return to Client: _____ Lab Disposal: _____			Received by Laboratory:	Date/Time: 4-15-10 9:00 Signature: Lisa Mancuso

In certain circumstances, samples submitted to Energy Laboratories, Inc. may be subcontracted to other certified laboratories in order to complete the analysis requested. This serves as notice of this possibility. All sub-contract data will be clearly notated on your analytical report.
Visit our web site at www.energylab.com for additional information, downloadable fee schedule, forms, and links.

ENERGY LABORATORIES, INC. * 1120 S 27th St * PO Box 30916 * Billings, MT 59107-0916
Toll Free 800.735.4489 * 406.252.6325 * FAX 406.252.6069 * eli@energylab.com

BOTTLE ORDER 39787

SHIPPED TO: KC Harvey Inc

Contact: Shane
376 Gallatin Park Drive
Bozeman MT 57915

Phone:

Project:

Order Created by: gmccartney

Ship Date: 4/6/2010
VIA: Ground

Bottle Size/Type	Bottles Per Samp	Method	Tests	Critical Hold Time	Preservative	Notes	Num of Samp
40 mL Clear Glass VOA	3	SW8260B	8260-Volatile Organic Compounds-Short List		HCL		25
1 Liter Amber Glass Narrow Mouth	2	SW8015B	Diesel Range Organics		H2SO4		25
40 mL Clear Glass VOA	3	SW8015B	Gasoline Range Organics		HCL		25

Comments

If you need the VOC-8260 with a different analyte list that short, please let us know.

■ HNO3 - Nitric Acid ■ H2SO4 - Sulfuric Acid ■ NaOH - Sodium Hydroxide
■ ZnAc - Zinc Acetate ■ HCl - Hydrochloric Acid ☐ H3PO4 - Phosphoric Acid

We strongly suggest that the samples are shipped the same day as they are collected.

Material Safety Data Sheets(MSDS) Available @ EnergyLab.com ->Services -> MSDS Sheets

Corrosive Chemicals: Nitric, Sulfuric, Phosphoric, Hydrochloric Acids and Sodium Hydroxide. Zinc Acetate is a skin irritant.

Subcontracting of sample analyses to an outside laboratory may be required. If so, Energy Laboratories will utilize its branch laboratories or qualified contract laboratories for this service. Any such laboratories will be indicated within the Laboratory Analytical Report.